Integers

Teacher Masters

Warming Up

Make a semantic map of everything you know about integers.

Integers
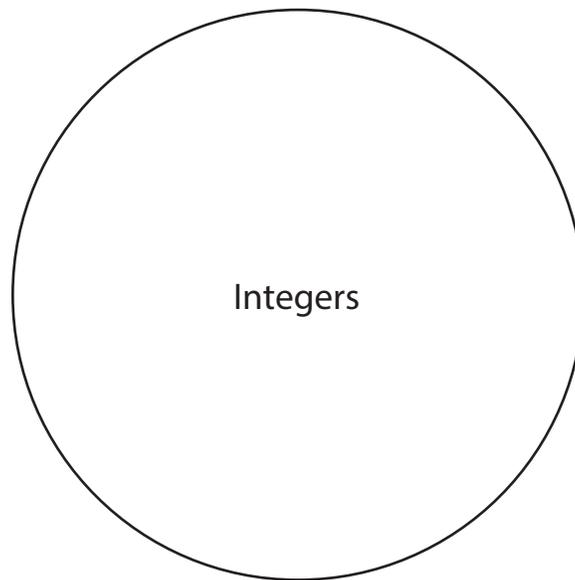
Learning to Solve

Trying It on Your Own
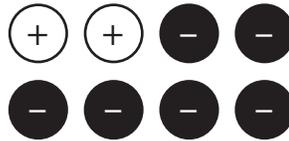
1. What is the value modeled in this diagram?   ⊖ = −1   ⊕ = +1

   a. 8

   b. 4

   c. −4

   d. −6

2. John said it is not possible to model −4 using precisely 10 2-colored chips. Is John's statement true?

   a. No, his statement is not true. You can model −4 with 4 negative chips and 3 zero pairs for a total of 10 chips.

   b. No, his statement is not true. You can model −4 using any number of chips.

   c. Yes, his statement is true. You only need 4 2-colored chips to model −4. Using more chips would change the value.

   d. Yes, his statement is true. You need 4 negative chips but to use more chips would mean that you add in an odd number of chips.

Trying It on Your Own
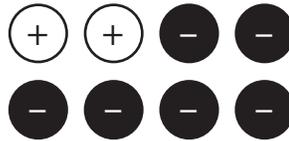
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    d. Yes, his statement is true. You need 4 negative chips but to use more chips would mean that you add in an odd number of chips.

3. Jasmine was told to model +6, using 2-colored chips. Which diagram shows +6 modeled correctly?

a.

b.

c.

d. Both b and c

4. Maria modeled +12 with two 2-colored chips. Another student said that her model was incorrect. What does Maria need to change so that the model for +12 is correct. Select the best answer.

a. Maria needs to change 12 of the negative 2-colored chips to positive 2-colored chips.

b. Maria doesn't have to change anything. She has 12 modeled with 3 zero pairs.

c. Maria needs to remove the 3 zero pairs because they change the value of the 12 2-colored chips not paired.

d. Maria needs to add 12 more positive 2-colored chips below the negative 2-colored chips.

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b.

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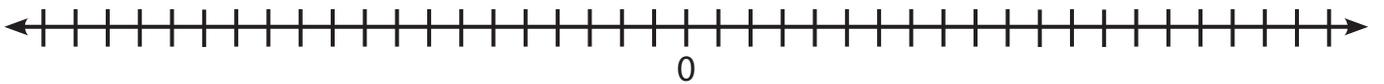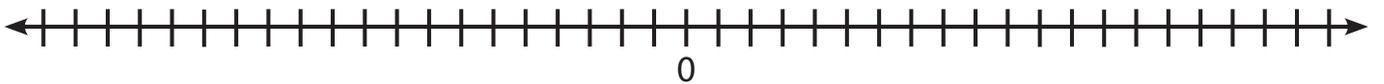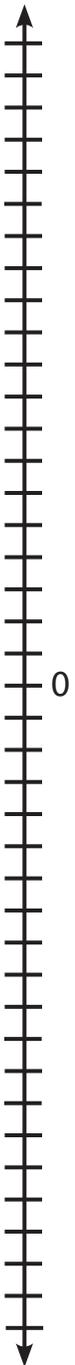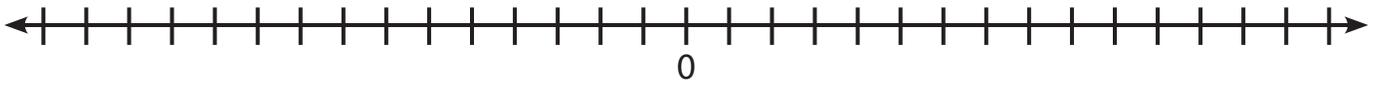
Learning to Solve
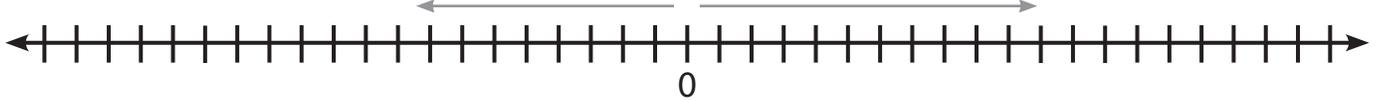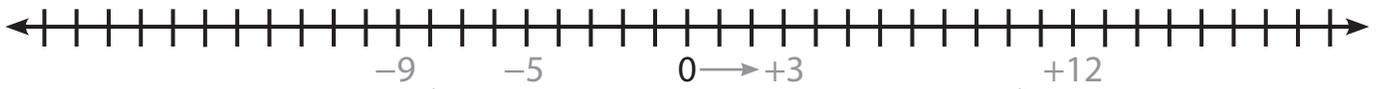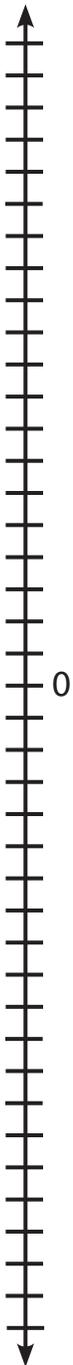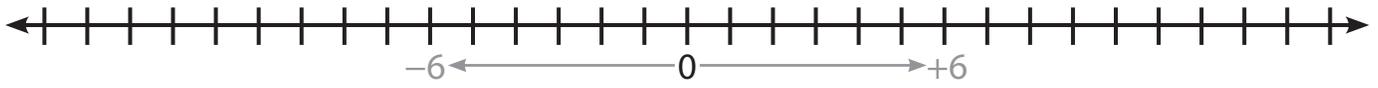
−6 ← 0 → +6

0

−9 ← −5 0 → +3 +12

0

Practicing Together

1. Compare −16 and |15|.

Students wrote that −16 is greater than |15| because 16 is 1 more than 15. Are the students correct? Why or why not?

_____

2. Compare |−27| and −5.

Students wrote that −5 is greater than the absolute value of −27 because −5 is closer to 0. Are the students correct? Why or why not?

_____

3. Which of these integers is greatest? −78, 0, |−12|, |24|

Students thought that −78 was the greatest of the 4 integers. Did the students select the greatest integer? Why or why not?

_____

4. Which of these integer is the least? −29, |−87|, −82, −100

Students thought that −29 was the least integer. Did the students select the least integer? Why or why not?

_____

5. Order the integers from greatest to least: 35, |14|, 75, −12

Students answered: 75, −12, |14|, 35. Did they answer correctly? Why or why not?

Practicing Together

1. Compare –16 and |15|.

Students wrote that –16 is greater than |15| because 16 is 1 more than 15. Are the students correct? Why or why not?

No. –16 is a negative number and It will not be greater than a positive number.

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2. Compare |–27| and –5.

Students wrote that –5 is greater than the absolute value of –27 because –5 is closer to 0. Are the students correct? Why or why not?

No, the absolute value of –27 is +27, so it is greater than –5.

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3. Which of these integers is greatest? –78, 0, |–12|, |24|

Students thought that –78 was the greatest of the 4 integers. Did the students select the greatest integer? Why or why not?

No, –78 is the only negative integer in the group. It will not be greater than a positive number.

4. Which of these integer is the least? –29, |–87|, –82, –100

Students thought that –29 was the least integer. Did the students select the least integer? Why or why not?

No, the least integer is -100 because it is the farthest to the left on a number line.

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5. Order the integers from greatest to least: 35, |14|, 75, –12

Students answered: 75, –12, |14|, 35. Did they answer correctly? Why or why not?

No, 35 is greater than absolute value of 14 and –12 is least.
The correct order should be 75, 35, |14|, –12.

Trying It on Your Own

1. What is another way to describe |7|?

      a. It is neither positive nor negative; it has no value.

      b. It is negative.

      c. It is the opposite of the number.

      d. It is 7 units from 0.

2.

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 30 ┬
    ┼
    ┼
    ┼
    ┼
  0 ┼
    ┼
    ┼
    ┼
    ┼
−30 ┴
```
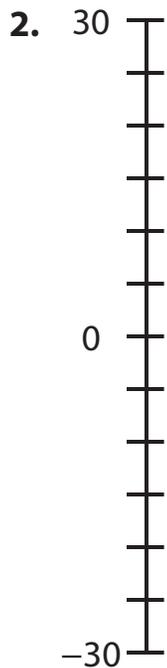
The morning temperature in New York in January was −5°. The temperature rose 10° by noon. Using the number line above, what was the temperature at noon?

      a. 10°

      b. −15°

      c. 5°

      d. −5°

Trying It on Your Own

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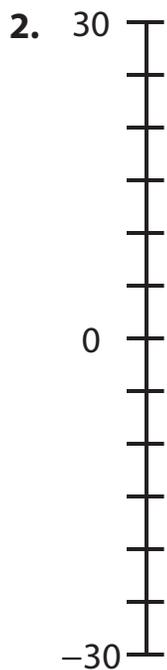
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    a. 10°

    b. −15°

    (c.) 5°

    d. −5°

3. Jim said, "| −8| is less than |8|." Do you agree with Jim? Why or why not?

    a. Yes, I agree with Jim because −8 is less than 8.

    b. Yes, I agree with Jim because negative numbers have are farther to the left on a number line.

    c. No, I do not agree with Jim because the absolute value is the same for both integers.

    d. No, I do not agree with Jim because you cannot compare absolute values of numbers.

4. Ralph ordered the following integers from least to greatest. Is he correct?

$$0, 39, -54, |-87|$$

    a. No, he is incorrect because −54 is less than the other numbers.

    b. Yes, he is correct because 0 and 39 are less than 54 and 87.

    c. Yes, he is correct because he arranged the numbers in order by absolute value.

    d. No, he is incorrect. The correct order is |−87|, 39, −54, 0.

3. Jim said, "| −8| is less than |8|." Do you agree with Jim? Why or why not?

    a. Yes, I agree with Jim because −8 is less than 8.

    b. Yes, I agree with Jim because negative numbers have are farther to the left on a number line.

    c. No, I do not agree with Jim because the absolute value is the same for both integers.

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    b. Yes, he is correct because 0 and 39 are less than 54 and 87.

    c. Yes, he is correct because he arranged the numbers in order by absolute value.

    d. No, he is incorrect. The correct order is |−87|, 39, −54, 0.

Practicing Together

Key:

1. Rob used a drawing of chips to show that 6 + (−5) = 1. Draw what his drawing may have looked like.

2. Your teacher showed this chip model.
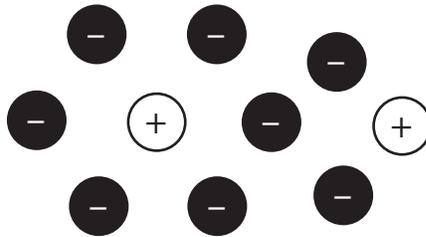
What is the value of the chips?

Write an addition equation represented by the chips.

Draw a picture and write a different addition equation shows a sum of −6.

Practicing Together

Key:

1. Rob used a drawing of chips to show that 6 + (−5) = 1. Draw what his drawing may have looked like.
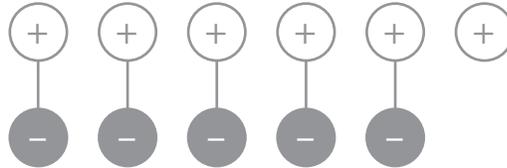
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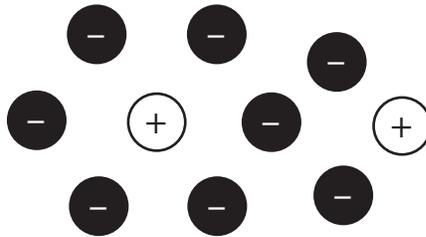
What is the value of the chips?

−6

Write an addition equation represented by the chips.

−8 + 2 = −6 or 2 + (−8) = −6

Draw a picture and write a different addition equation shows a sum of −6.

Answers will vary.

Trying It on Your Own
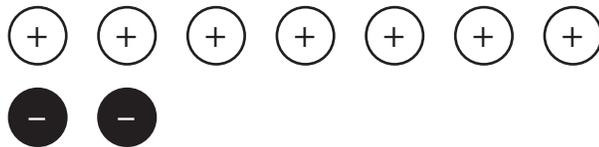
Key:

1. Monica thinks that her diagram represents $-2 + 7 = 5$. Do you agree?

a. No, her diagram represents $2 + 7 = 9$. She had 7 positive chips and added 2 negative chips. The result is 9 chips.

b. Yes, because 4 of the chips form zero pairs. The remaining chips are equal to +5.

c. Yes, it does represent the equation, but the answer should be 7 because you have to take away the 2 negative chips.

d. No, because she should have started with 5 positive chips and then added in 2 negative chips to make 2 zero pairs.

2. Using 9 chips, what is an equation that Monica could represent?

a. $0 + 0 = 9$

b. $5 + (-4) = 9$

c. $-7 + 2 = 5$

d. $5 + (-4) = 1$

Trying It on Your Own
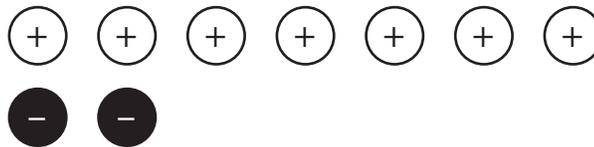
Key: ⚫ − ⊕ +

1. Monica thinks that her diagram represents −2 + 7 = 5. Do you agree?

⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕

⚫ ⚫

   a. No, her diagram represents 2 + 7 = 9. She had 7 positive chips and added 2 negative chips. The result is 9 chips.
   b. Yes, because 4 of the chips form zero pairs. The remaining chips are equal to +5.
   c. Yes, it does represent the equation, but the answer should be 7 because you have to take away the 2 negative chips.
   d. No, because she should have started with 5 positive chips and then added in 2 negative chips to make 2 zero pairs.

2. Using 9 chips, what is an equation that Monica could represent?
   a. 0 + 0 = 9
   b. 5 + (−4) = 9
   c. −7 + 2 = 5
   d. 5 + (−4) = 1

Select the correct sum. You may use 2-color chips or drawings to help you solve.

3. −4 + (−11) = _____

    a. −7

    b. −15

    c. 7

    d. 15

4. −9 + 5 = _____

    a. −4

    b. 4

    c. −14

    d. 14

Select the correct sum. You may use 2-colored chips or drawings to help you solve.

3. $-4 + (-11) =$ _____

    a. -7

    b. -15

    c. 7

    d. 15

4. $-9 + 5 =$ _____

    a. -4

    b. 4

    c. -14

    d. 14

Practicing Together

Model the following problems, using chips or pictures.

1. 12 −11 = _____

2. −1 −14 = _____

3. 15 − (−9) = _____

4. −8 − (−11) = _____

Practicing Together

Model the following problems, using chips or pictures.

1. $12 - 11 =$ ___1___
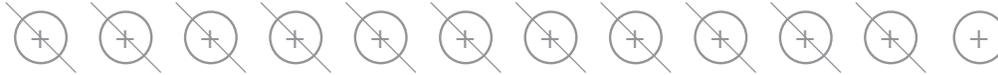
2. $-1 - 14 =$ ___−15___
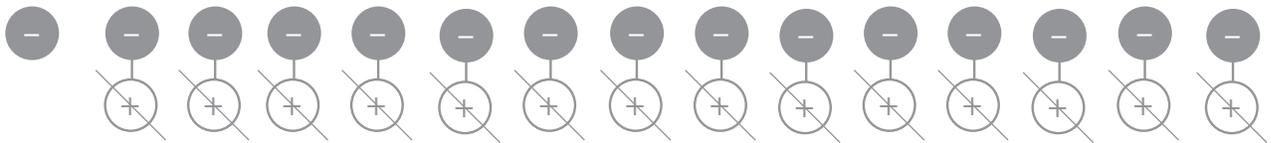
3. $15 - (-9) =$ ___24___

4. $-8 - (-11) =$ ___3___
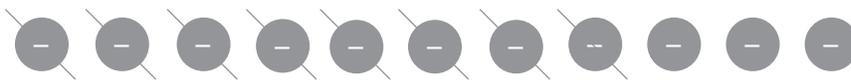
Trying It on Your Own

Select the correct difference. You may use chips or drawings to help you solve.

1. $-13 - (-9) = $ _____

    a. 22

    b. 4

    c. −22

    d. −4

2. $5 - 11 = $ _____

    a. −6

    b. 6

    c. 16

    d. −16

Trying It on Your Own

Select the correct difference. You may use chips or drawings to help you solve.

1. −13 − (−9) = _____

    a. 22

    b. 4

    c. −22

    (d.) −4

2. 5 − 11 = _____

    (a.) −6

    b. 6

    c. 16

    d. −16

Look at the model below each equation. Was the equation modeled correctly? Why or why not?

3. −7 − 2 = 5

    a. Yes, this is the correct diagram and the correct answer.

    b. No, this diagram is incorrect. You have to add 2 negative chips, not remove them. The answer should be −9.

    c. No, this diagram is incorrect. You need to first add 2 zero pairs to be able to remove +2. The answer should be −9.

    d. No, this is the correct diagram, but the answer is −5, not +5.

4. 4 − 20 = −16

    a. No, this is not the correct diagram. The negative chips should all be positive.

    b. Yes, this is the correct diagram, but the negative chips should be in a straight line.

    c. Yes, this is the correct diagram. There are 4 positive chips and 20 negative chips with 4 zero pairs created.

    d. No, this diagram is incorrect. You need to make zero pairs to be able to remove 20, resulting in an answer of −16.

Look at the model below each equation. Was the equation modeled correctly? Why or why not?

3. $-7 - 2 = 5$
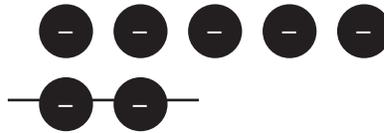
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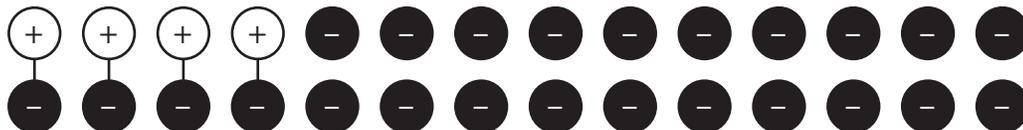
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    d. No, this diagram is incorrect. You need to make zero pairs to be able to remove 20, resulting in an answer of –16.

Practicing Together

Complete the Magic Square so that the sum of each row, column, and diagonal equals 0. Use numbers: 1, 2, 4, −1, −2, −3, −4.

		3
	0	

Complete the Magic Square so that the sum of each row, column, and diagonal equals 6. Use numbers: 0, 1, 3, 4, 5, 6, −2.

	2	
−1		

Practicing Together

Complete the Magic Square so that the sum of each row, column, and diagonal equals 0.
Use numbers: 1, 2, 4, −1, −2, −3, −4.

1	−4	3
2	0	−2
−3	4	−1

Complete the Magic Square so that the sum of each row, column, and diagonal equals 6.
Use numbers: 0, 1, 3, 4, 5, 6, −2.

3	−2	5
4	2	0
−1	6	1

Trying It on Your Own

Select the correct sum or difference. You may use 2-colored chips, drawings, or your Generalization sheet to help you solve.

1. −7 + (−4) = _____

    a. 11

    b. −11

    c. −3

    d. 3

2. 3 − (−10) = _____

    a. −13

    b. −3

    c. 3

    d. 13

Trying It on Your Own

Select the correct sum or difference. You may use 2-colored chips, drawings, or your Generalization sheet to help you solve.

1. −7 + (−4) = _____

    a. 11

    b. −11

    c. −3

    d. 3

2. 3 − (−10) = _____

    a. −13

    b. −3

    c. 3

    d. 13

3. Riley said that she could use fact families to find the missing addend for the equation $2 + \underline{\hspace{1cm}} = -6$. She said the missing addend was 8. Is she correct?

> **a.** No, she is incorrect. You can use fact families to solve, but the correct missing addend is –8.
>
> **b.** Yes, she is correct.
>
> **c.** No, she is incorrect. The correct missing addend is +4 because –6 – 2 = +4.
>
> **d.** No, she is incorrect. If she used fact families, she would have subtracted 2.

4. Kennedy found a missing value in a problem. She said the missing value was –12. For which equation is –12 the missing value?

> **a.** $\underline{\hspace{1cm}} + 9 = -3$
>
> **b.** $\underline{\hspace{1cm}} - 9 = -3$
>
> **c.** $5 + \underline{\hspace{1cm}} = 7$
>
> **d.** $5 - \underline{\hspace{1cm}} = 7$

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a. $\underline{\hspace{1cm}} + 9 = -3$

b. $\underline{\hspace{1cm}} - 9 = -3$

c. $5 + \underline{\hspace{1cm}} = 7$

d. $5 - \underline{\hspace{1cm}} = 7$

Learning to Solve

1. Morgan was just learning how to play golf. To help them learn, the Brushy Creek golf course started each new golfer with a score of –4, or 4 under par. Morgan practiced on the course for 5 days. Her score, without the –4, is shown in the table. What is the score when you add in the –4?

Actual score + –4 = final score

Day	Score	**Final Score for Day** Actual score + –4 = final score
Monday	–2	
Tuesday	–1	
Wednesday	–3	
Thursday	0	
Friday	1	

2. Robert was a contestant on a student game show. His missed some questions, so his score was –200. He then correctly answered a 500-point question about cars in the 1900s. What is Robert's current score?

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Actual score + –4 = final score

Day	Score	Final Score for Day Actual score + –4 = final score
Monday	–2	–6
Tuesday	–1	–5
Wednesday	–3	–7
Thursday	0	–4
Friday	1	–3

2. Robert was a contestant on a student game show. His missed some questions, so his score was –200. He then correctly answered a 500-point question about cars in the 1900s. What is Robert's current score?

$$-200 + 500 = 300$$
Robert's current score is 300 points.

Practicing Together

1. Complete the table.

Starting number	Starting number – 3 + 2
–2	
–1	
0	
1	
2	

Practicing Together

1. Complete the table.

Starting number	Starting number – 3 + 2
–2	–3
–1	–2
0	–1
1	0
2	1

2. There was a big golf tournament for middle school students just learning how to play. Each student began at 2 under par, meaning they started the tournament with a score of –2. Complete the chart to show each student's score at the end of the tournament.

Students	Score	Score + (–2)
Karen	13	
Matt	–4	
Cathy	–8	
Hans	18	
Rob	1	

Who had the best score? (Remember, the lower the score—or farther below 0, or par—is best.)

Who had the worst score?

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Student	Score	Score + (–2)
Karen	13	11
Matt	–4	–6
Cathy	–8	–10
Hans	18	16
Rob	1	–1

Who had the best score? (Remember, the lower the score—or farther below 0, or par—is best.)

Cathy

Who had the worst score?

Hans

3. Ronald was visiting New Orleans, which is 8 feet below sea level (–8). He took off in his helicopter and ascended 600 feet. What is Ronald's elevation now?

How did you solve the problem?

3. Ronald was visiting New Orleans, which is 8 feet below sea level (–8). He took off in his helicopter and ascended 600 feet. What is Ronald's elevation now?

–8 + 600 = 592 feet above sea level

How did you solve the problem?

Answers will vary such as made a model, added 600 to –8

Trying It on Your Own

starting number + 9 = final number

Starting Number + 9	Final Number
–9	0
–8	1
–2	**?**
8	17
9	18
6	15

Use the table above to answer questions 1 and 2.

1. What is the missing value after adding 9 to the starting number –2?

    a. –11

    b. –7

    c. 7

    d. 11

2. Using the same equation, starting number + 9 = final number, what would the value and sign of the starting number need to be to result in a sum, or final number, with a negative sign?

    a. –10 or less

    b. +10 or greater

    c. Would never happen because the final number is always positive

    d. Not enough information to determine

Trying It on Your Own

Starting Number + 9 = Final Number

Starting Number + 9	Final Number
–9	0
–8	1
–2	**?**
8	17
9	18
6	15

Use the table above to answer questions 1 and 2.

1. What is the missing value after adding 9 to the starting number –2?

  a. –11

  b. –7

  c. 7

  d. 11

2. Using the same equation, starting number + 9 = final number, what would the value and sign of the starting number need to be to result in a sum, or final number, with a negative sign?

  a. –10 or less

  b. +10 or greater

  c. Would never happen because final number is always positive

  d. Not enough information to determine

3. A scuba diver was 30 feet below sea level. He descended 40 more feet below sea level. How deep did the scuba diver swim?

      a. −10, or 10 feet below sea level

      b. 10, or 10 feet above sea level

      c. Not enough information to solve

      d. −70, or 70 feet below sea level

4. A submarine was 500 feet below sea level. It ascended 325 feet. What is its current position?

      a. −175, or 175 feet below sea level

      b. 175, or 175 feet above sea level

      c. −825, or 825 feet below sea level

      d. 825, or 825 feet above sea level

3. A scuba diver was 30 feet below sea level. He descended 40 more feet below sea level. How deep did the scuba diver swim?

     a. −10, or 10 feet below sea level

     b. 10, or 10 feet above sea level

     c. Not enough information to solve

     d. −70, or 70 feet below sea level

4. A submarine was 500 feet below sea level. It ascended 325 feet. What is its current position?

     a. −175, or 175 feet below sea level

     b. 175, or 175 feet above sea level

     c. −825, or 825 feet below sea level

     d. 825, or 825 feet above sea level

Warming Up

Temperatures	
Austin, Texas	78°
Kansas City, Missouri	48°
Orlando, Florida	96°
Anchorage, Alaska	−23°
Helena, Montana	−5°

At the North Pole, the temperature is 10 degrees lower than in Anchorage, Alaska. What expression could be used to represent the temperature?

What is the temperature at the North Pole?

Warming Up

Temperatures	
Austin, Texas	78°
Kansas City, Missouri	48°
Orlando, Florida	96°
Anchorage, Alaska	−23°
Helena, Montana	−5°

Order from least to greatest: Anchorage, Helena, Kansas City, Austin, Orlando

At the North Pole, the temperature is 10 degrees lower than in Anchorage, Alaska. What expression could be used to represent the temperature?

−10 + (−23) or −23 − 10

What is the temperature at the North Pole?

−33 degrees

Practicing Together

Compare each expression and explain whether the equation is true.

1. −8 + (−15) = 11 + 12
Is this equation true? Explain.

2. 72 − 2 ≠ −45 + 115
Is this inequality true? Explain.

3. 7 − (−21) < −48 + 76
Is this inequality true? Explain.

4. Write an expression to complete this equation.
_____ = −6 − (−4)

Practicing Together

Compare each expression and explain whether the equation is true.

1. $-8 + (-15) = 11 + 12$
Is this equation true? Explain.

No. The first expression equals -23 and the second expression equals $+23$. A less than or unequal sign should have been used.

2. $72 - 2 \neq -45 + 115$
Is this inequality true? Explain.

No. Both expressions equal 70.

3. $7 - (-21) < -48 + 76$
Is this inequality true? Explain.

No. Both equations equal 28.

4. Write an expression to complete this equation.
_____ $= -6 - (-4)$

Accept any expression equal to -2.

Trying it on Your Own

1. A student wrote the following inequality. Is she correct? If not, what mistake did she make?

$$23 + (-30) < -12 + 3$$

a. No, she is incorrect. The first expression equals -7 and the second expression equals -9. -7 is greater than -9 because it is closer to 0.

b. Yes, she is correct. The first expression equals -7 and the second expression equals -9. -9 is greater than -7.

c. No, she is incorrect. The first expression equals 53 and the second expression equals 15. 53 is greater than 15.

d. The student cannot use a less than symbol. She should have used an unequal sign. The only way this inequality is true is if the less than sign is changed.

2. Select the correct equation in which the expression on the right and the expression on the left equal -17.

$$\rule{4cm}{0.4pt} = \rule{4cm}{0.4pt}$$
$$-17 = -17$$

a. $10 + (-7) = 27 - 10$

b. $-24 - (-7) = -10 + (-7)$

c. $10 + 7 = 11 + 6$

d. $10 + (-7) = 27 - 10$

Trying it on Your Own

1. A student wrote the following inequality. Is she correct? If not, what mistake did she make?

$$23 + (-30) < -12 + 3$$

a. No, she is incorrect. The first expression equals -7 and the second expression equals -9. -7 is greater than -9 because it is closer to 0.

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c. No, she is incorrect. The first expression equals 53 and the second expression equals 15. 53 is greater than 15.

d. The student cannot use a less than symbol. She should have used an unequal sign. The only way this inequality is true is if the less than sign is changed.

2. Select the correct equation in which the expression on the right and the expression on the left equal -17.

$$\underline{\hspace{4cm}} = \underline{\hspace{4cm}}$$
$$-17 = -17$$

a. $10 + (-7) = 27 - 10$

b. $-24 - (-7) = -10 + (-7)$

c. $10 + 7 = 11 + 6$

d. $10 + (-7) = 27 - 10$

For 3 and 4, what sign, = or ≠, should be inserted into each inequality?

3. 85 + (−38) _____ 83 − 91

     a. =, because both expressions are equal.

     b. ≠, because the first expression equals 47 and the second expression equals −8.

     c. ≠, because the first expression equals 123 and the second expression equals 8.

     d. ≠, because the expressions cannot be simplified.

4. −3 − |−13| _____ −4 + (−12)

     a. ≠, because the first expression equals −16 and the second expression equals −8.

     b. =, because both expressions equal −16.

     c. ≠, because the expressions cannot be solved.

     d. ≠, because the first expression equals −10 and the second expression equals −16.

For 3 and 4, what sign, = or ≠, should be inserted into each inequality?

3. 85 + (−38) _____ 83 − 91

    a. =, because both expressions are equal.

    b. ≠, because the first expression equals 47 and the second expression equals −8.

    c. ≠, because the first expression equals 123 and the second expression equals 8.

    d. ≠, because the expressions cannot be simplified.

4. −3 − |−13| _____ −4 + (−12)

    a. ≠, because the first expression equals −16 and the second expression equals −8.

    b. =, because both expressions equal −16.

    c. ≠, because the expressions cannot be solved.

    d. ≠, because the first expression equals −10 and the second expression equals −16.

Learning to Solve

1. Debbie had $213 in her checking account. She wrote checks for $23, $126, and $67. The bank called her and said she had overdrawn her account, meaning she spent more money than she had in the bank. What was her new balance?

2. A scuba diver was 430 feet below sea level. He rose at a rate of 12 feet per minute. What was the depth of the diver after 9 minutes?

Learning to Solve

1. Debbie had $213 in her checking account. She wrote checks for $23, $126, and $67. The bank called her and said she had overdrawn her account, meaning she spent more money than she had in the bank. What was her new balance?

$23 + $126 + $67 = $216

$213 − $216 = −$3

Debbie currently has a balance of −$3 in her checking account.

2. A scuba diver was 430 feet below sea level. He rose at a rate of 12 feet per minute. What was the depth of the diver after 9 minutes?

−430 + 12 + 12 + 12 + 12 + 12 + 12 + 12 + 12 + 12 = −322, or 322 feet below sea level

3. The price of a share of stock started the day at $24. During the day, it went up $3, down $4, down $7, and up $6. What was the price of a share of the stock at the end of the day?

3. The price of a share of stock started the day at $24. During the day, it went up $3, down $4, down $7, and up $6. What was the price of a share of the stock at the end of the day?

$22

$24 + 3 − 4 − 7 + 6 = $22

Trying it on Your Own

1. A monkey sat on a tree that is 32 feet above the ground. He swung up 14 feet, ate 7 bananas, and then climbed up 4 more feet. How far off the ground was the monkey?

      a. 57 feet

      b. 50 feet

      c. 22 feet

      d. 42 feet

2. It was super cold yesterday. In the morning, the temperature was 6°, and then it decreased by 15° at noon! It stayed at this temperature for 4 hours and then rose by 8°. What was the temperature at 4 p.m.?

      a. −1°

      b. −17°

      c. −24°

      d. 1°

Trying it on Your Own

1. A monkey sat on a tree that is 32 feet above the ground. He swung up 14 feet, ate 7 bananas, and then climbed up 4 more feet. How far off the ground was the monkey?

     a. 57 feet

     b. 50 feet

     c. 22 feet

     d. 42 feet

2. It was super cold yesterday. In the morning, the temperature was 6°, and then it decreased by 15° at noon! It stayed at this temperature for 4 hours and then rose by 8°. What was the temperature at 4 p.m.?

     a. −1°

     b. −17°

     c. −24°

     d. 1°

3. A research team aboard an underwater research vessel descended 1,500 feet beneath the surface. They then rose 525 feet and descended again 350 feet. What is the vessel's last position? Select the expression that could be used to solve.

      a. 1,500 – 525 – (–350)

      b. –1,500 + 525 – 350

      c. –1,500 – 525 – (–350)

      d. –1,500 + 525 + 350

4. The overnight temperature at the Arctic Circle was –14°, but the temperature rose during the day. At its highest, the temperature was –6°. How many degrees did the temperature increase during the day?

      a. 20°

      b. –8°

      c. –20°

      d. 8°

3. A research team aboard an underwater research vessel descended 1,500 feet beneath the surface. They then rose 525 feet and descended again 350 feet. What is the vessel's last position? Select the expression that could be used to solve.

    a. 1,500 – 525 – (–350)

    b. –1,500 + 525 – 350

    c. –1,500 – 525 – (–350)

    d. –1,500 + 525 + 350

4. The overnight temperature at the Arctic Circle was –14°, but the temperature rose during the day. At its highest, the temperature was –6°. How many degrees did the temperature increase during the day?

    a. 20°

    b. –8°

    c. –20°

    d. 8°

Wrapping It Up

Complete the Magic Square so that the sum of each row and column equals 0. Use numbers: –4, –3, –2, 1, 2, 3, 4.

	0	
–1		

Wrapping It Up

Complete the Magic Square so that the sum of each row and column equals 0. Use numbers: −4, −3, −2, 1, 2, 3, 4.

−3	2	1
4	0	−4
−1	−2	3

Warming Up

Carmen said, "15 − (−18) = −3 because you add a negative number to find the difference."
Do you agree with Carmen? Why or why not?

Warming Up

Carmen said, "15 − (−18) = −3 because you add a negative number to find the difference." Do you agree with Carmen? Why or why not?

No, Carmen is incorrect. To subtract, you add the opposite of the subtrahend. In this problem, the opposite of −18 is 18. 15 + 18 is 33.

Learning to Solve

1.   4   ×   2   =   8

   _____ × _____ = _____

Learning to Solve

1.   4   ×   2   =   8

    factor   ×   factor   =   product

Learning to Solve

1. Find the products and answer the questions.

$6 \times 6 =$ _____

$6 \times 5 =$ _____

$6 \times 4 =$ _____

Patterns:
What pattern do you notice about the factors in these problems?

What pattern do you notice about the products?

Both factors are positive. What is the sign of the product?

2. Continue the pattern for both the factors and the products. Write the next 4 equations.

$6 \times 3 = 18$

$6 \times 2 = 12$

$6 \times$ _____ $=$ _____

$6 \times$ _____ $=$ _____

$6 \times$ _____ $=$ _____

$6 \times$ _____ $=$ _____

What pattern do you notice about the products?

Learning to Solve

1. Find the products and answer the questions.

$6 \times 6 = \underline{36}$

$6 \times 5 = \underline{30}$

$6 \times 4 = \underline{24}$

Patterns:
What pattern do you notice about the factors in these problems?

One factor stays the same, the other factor decreases by 1 each time.

What pattern do you notice about the products?

The products decrease by 6 each time.

Both factors are positive. What is the sign of the product?

positive

2. Continue the pattern for both the factors and the products. Write the next 4 equations.

$6 \times 3 = 18$

$6 \times 2 = 12$

$6 \times \underline{1} = \underline{6}$

$6 \times \underline{0} = \underline{0}$

$6 \times \underline{-1} = \underline{-6}$

$6 \times \underline{-2} = \underline{-12}$

What pattern do you notice about the products?

The products decrease by 6 each time.

When both factors are positive, what is the sign of the product?

When one factor is positive and the other factor is negative, what is the sign of the product?

3. Find the products and answer the questions.

$-9 \times 2 =$ _____

$-9 \times 1 =$ _____

$-9 \times 0 =$ _____

Patterns:
What pattern do you notice about the products?

When one factor is negative and the other factor is positive, what do you notice about the product?

When one factor is negative and the other factor is 0, what do you notice about the product?

Continue the pattern for both the second factor and the product for the next 4 equations.

$-9 \times$ _____ $=$ _____

$-9 \times$ _____ $=$ _____

$-9 \times$ _____ $=$ _____

$-9 \times$ _____ $=$ _____

When both factors are positive, what is the sign of the product?

positive

When one factor is positive and the other factor is negative, what is the sign of the product?

negative

3. Find the products and answer the questions.

$-9 \times 2 =$ __−18__

$-9 \times 1 =$ __−9__

$-9 \times 0 =$ __0__

Patterns:
What pattern do you notice about the products?

They increase by 9 each time

When one factor is negative and the other factor is positive, what do you notice about the product?

The product is negative

When one factor is negative and the other factor is 0, what do you notice about the product?

The product is 0

Continue the pattern for both the second factor and the product for the next 4 equations.

$-9 \times$ __−1__ $=$ __9__

$-9 \times$ __−2__ $=$ __18__

$-9 \times$ __−3__ $=$ __27__

$-9 \times$ __−4__ $=$ __36__

What do you notice about the products?

Look at the first factor. What is the sign of the integer?

Look at the second factor. What is the sign of the integer?

Look at the products. What is the sign of the integer?

What do you notice about the sign of the product when both factors are negative?

What do you notice about the sign of the product when 1 factor is negative and 1 factor is positive?

What do you notice about the products?

they increase by 9 each time

Look at the first factor. What is the sign of the integer?

negative

Look at the second factor. What is the sign of the integer?

negative

Look at the products. What is the sign of the integer?

positive

What do you notice about the sign of the product when both factors are negative?

the product is positive

What do you notice about the sign of the product when 1 factor is negative and 1 factor is positive?

it is negative

Trying It on Your Own

1. Ming stated that the product of –3 and 9, or –3(9), was 27. Is she correct? Why or why not?

    a. No, she is incorrect because a negative integer times a positive integer gives a negative product.

    b. Yes, she is correct because first you multiply and then you take the sign of the larger number. So 3 times 9 is 27 and 9 is larger, so the product is positive.

    c. Yes, she is correct because when you multiply a positive and a negative, the product is always positive.

    d. No, she is incorrect. When the factors have different signs, you always use the sign of the first factor as the sign of the product.

2. What is the product of 5×-4? Select the answer choice with the correct product and correct reason for that answer.

    a. The product is 20 because 5 is larger than 4.

    b. The product is –20 because the first number is negative.

    c. The product is 20 because when you multiply a positive and a negative, the product is always positive.

    d. The product is –20 because when you have 5 groups of –4, you get the product of –20.

Trying It on Your Own

1. Ming stated that the product of –3 and 9, or –3(9), was 27. Is she correct? Why or why not?

a. No, she is incorrect because a negative integer times a positive integer gives a negative product.

b. Yes, she is correct because first you multiply and then you take the sign of the larger number. So 3 times 9 is 27 and 9 is larger, so the product is positive.

c. Yes, she is correct because when you multiply a positive and a negative, the product is always positive.

d. No, she is incorrect. When the factors have different signs, you always use the sign of the first factor as the sign of the product.

2. What is the product of 5 × –4? Select the answer choice with the correct product and correct reason for that answer.

a. The product is 20 because 5 is larger than 4.

b. The product is –20 because the first number is negative.

c. The product is 20 because when you multiply a positive and a negative, the product is always positive.

d. The product is –20 because when you have 5 groups of –4, you get the product of –20.

3. Which pairs of integers both have a product of –30?

    a. (5, 6) and (–2, 15)

    b. (–6, –5) and (–10, –3)

    c. (5, 6) and (30, 1)

    d. (–15, 2) and (–3, 10)

4. Jessica wrote the product is –24. Which multiplication expression did she simplify?

    a. –3(–8)

    b. 2(–12)

    c. 2(12)

    d. –2(–12)

3. Which pairs of integers both have a product of −30?

     a. (5, 6) and (−2, 15)

     b. (−6, −5) and (−10, −3)

     c. (5, 6) and (30, 1)

     d. (−15, 2) and (−3, 10)

4. Jessica wrote the product is −24. Which multiplication expression did she simplify?

     a. −3(−8)

     b. 2(−12)

     c. 2(12)

     d. −2(−12)

Wrapping It Up

Using your knowledge of fact families, determine whether each equation is true or false.

1. $-16 \div (-4) = 4$

2. $16 \div (-4) = 4$

3. $16 \div 4 = 4$

4. $-16 \div 4 = -4$

Wrapping It Up

Using your knowledge of fact families, determine whether each equation is true or false.

1. $-16 \div (-4) = 4$ True

2. $16 \div (-4) = 4$ False

3. $16 \div 4 = 4$ True

4. $-16 \div 4 = -4$ True

Learning to Solve

1.   12   ÷   3   =   4

_____ ÷ _____ = _____

2. $3 \overline{)12}$
              $\,^{4}$

Dividend   Quotient   Divisor

Learning to Solve

1.   12   ÷   3   =   4

     dividend ÷ divisor   = quotient

2.
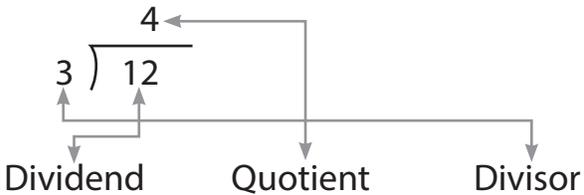
$$3 \overline{)12} \quad 4$$

Dividend   Quotient   Divisor

3. Find the quotients and answer the questions.

$36 \div 6 =$ _____

$30 \div 6 =$ _____

$24 \div 6 =$ _____

Patterns:
What pattern do you notice about the dividends?

What pattern do you notice about the quotients?

What is the relationship between the sign of the quotient and the signs of the dividend and divisor?

What do you notice about the relationship between the sign of the quotient and the signs of the dividends and the divisors?

4. Continue the pattern for the dividend and the quotient. Write the next 4 equations.

$12 \div 6 = 2$

$6 \div 6 = 1$

_____ $\div 6 =$ _____

_____ $\div 6 =$ _____

_____ $\div 6 =$ _____

_____ $\div 6 =$ _____

3. Find the quotients and answer the questions.

$36 \div 6 =$ ___6___

$30 \div 6 =$ ___5___

$24 \div 6 =$ ___4___

Patterns:
What pattern do you notice about the dividends?

They decrease by 6 each time

What pattern do you notice about the quotients?

They decrease by 1

What is the relationship between the sign of the quotient and the signs of the dividend and divisor?

They are both positive

What do you notice about the relationship between the sign of the quotient and the signs of the dividends and the divisors?

The signs of the quotients are positive and the signs of the dividends and divisors are positive.

4. Continue the pattern for the dividend and the quotient. Write the next 4 equations.

$12 \div 6 = 2$

$6 \div 6 = 1$

___0___ $\div 6 =$ ___0___

___−6___ $\div 6 =$ ___−1___

___−12___ $\div 6 =$ ___−2___

___−18___ $\div 6 =$ ___−3___

In thinking about the signs, what pattern do you notice?

5. Solve the equations and answer the questions.

$10 \div (-5) =$ _____

$5 \div (-5) =$ _____

$0 \div (-5) =$ _____

Patterns:
What is the sign of each dividend?

What is the sign of each divisor and quotient?

What pattern do you notice about the dividend?

6. Continue the pattern for the dividend and the quotient. Write the next 4 equations.

_____ $\div (-5) =$ _____

_____ $\div (-5) =$ _____

_____ $\div (-5) =$ _____

_____ $\div (-5) =$ _____

What are the signs of the dividends?

What are the sign of the divisors?

What are the sign of the quotients?

In thinking about the signs, what pattern do you notice?

When we divide a positive integer by a negative integer, the quotient is negative.

5. Solve the equations and answer the questions.

$10 \div (-5) = \underline{\quad -2 \quad}$

$5 \div (-5) = \underline{\quad -1 \quad}$

$0 \div (-5) = \underline{\quad 0 \quad}$

Patterns:
What is the sign of each dividend?

positive

What is the sign of each divisor and quotient?

negative

What pattern do you notice about the dividend?

decreases by 5

6. Continue the pattern for the dividend and the quotient. Write the next 4 equations.

$\underline{\quad -5 \quad} \div (-5) = \underline{\quad 1 \quad}$

$\underline{\quad -10 \quad} \div (-5) = \underline{\quad 2 \quad}$

$\underline{\quad -15 \quad} \div (-5) = \underline{\quad 3 \quad}$

$\underline{\quad -20 \quad} \div (-5) = \underline{\quad 4 \quad}$

What are the signs of the dividends? negative

What are the sign of the divisors? negative

What are the sign of the quotients? positive

Trying It on Your Own

1. Kevin stated that the quotient of 27 and –9, or 27 ÷ –9, was –3. Is he correct? Why or why not?

> **a.** Yes, he is correct because –3 is closer to –9.
>
> **b.** Yes, he is correct because 27 divided by 9 is 3 and a positive integer divided by a negative integer results in a negative quotient.
>
> **c.** No, he is wrong because you take the sign of the greater number and 27 is greater than –9, so the quotient should be +3.
>
> **d.** No, he is wrong because anytime you divide a positive integer by a negative integer, the quotient is positive.

2. What is the quotient of –20 ÷ 5? Select the answer choice with the correct quotient and correct reason for that answer.

> **a.** The quotient is –4 because a negative integer divided by a positive integer results in a negative quotient.
>
> **b.** The quotient is –4 because the first number is negative.
>
> **c.** The quotient is 4 because the dividend, 5, is closer to the answer and is a positive integer.
>
> **d.** The quotient is 4 because a negative integer divided by a positive integer results in a positive quotient.

Trying It on Your Own

1. Kevin stated that the quotient of 27 and –9, or 27 ÷ –9, was –3. Is he correct? Why or why not?

     a. Yes, he is correct because –3 is closer to –9.

     b. Yes, he is correct because 27 divided by 9 is 3 and a positive integer divided by a negative integer results in a negative quotient.

     c. No, he is wrong because you take the sign of the greater number and 27 is greater than –9, so the quotient should be +3.

     d. No, he is wrong because anytime you divide a positive integer by a negative integer, the quotient is positive.

2. What is the quotient of –20 ÷ 5? Select the answer choice with the correct quotient and correct reason for that answer.

     a. The quotient is –4 because a negative integer divided by a positive integer results in a negative quotient.

     b. The quotient is –4 because the first number is negative.

     c. The quotient is 4 because the dividend, 5, is closer to the answer and is a positive integer.

     d. The quotient is 4 because a negative integer divided by a positive integer results in a positive quotient.

3. Dean divided 2 integers. His quotient was −3. Which of the following division problems did he solve?

        a. 48 ÷ (−16)

        b. − 12 ÷ −4

        c. 60 ÷ 20

        d. −24 ÷ (−8)

4. Averi wrote −2 as the quotient. What expression was she solving?

        a. −30 ÷ (−15)

        b. 30 ÷ (−15)

        c. 30 ÷ 15

        d. −15 ÷ 30

3. Dean divided 2 integers. His quotient was –3. Which of the following division problems did he solve?

    a. 48 ÷ (–16)
    b. – 12 ÷ –4
    c. 60 ÷ 20
    d. –24 ÷ (–8)

4. Averi wrote –2 as the quotient. What expression was she solving?

    a. –30 ÷ (–15)
    b. 30 ÷ (–15)
    c. 30 ÷ 15
    d. –15 ÷ 30

Learning to Solve

Sherman's football team lost 8 yards on each of 3 consecutive plays. How many total yards did they lose?

Learning to Solve

1. Sherman's football team lost 8 yards on each of 3 consecutive plays. How many total yards did they lose?

–24 yards

2. The length of an island is shrinking at a rate of 19 inches per year. How long will it take for the island to shrink 209 inches?

11 years

Practicing Together

1. A submarine dove 852 feet. It rose at a rate of 32 feet per minute. What was the depth of the submarine after 12 minutes?

2. The height of water in a tank is 24 inches. Each week, the height decreases by 2 inches. What is the height of the water after 7 weeks?

3. It was a chilly weather day today. The temperature started at –7° in the morning and then dropped to –15° at noon. It stayed at –15° for 3 hours and then rose 6° by 5 p.m. What was the temperature at 5 p.m.?

0
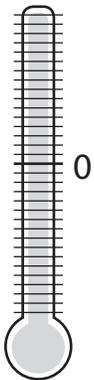
4. A hiker was climbing Mount St. Helens. He climbed for 3 days. Each day, he climbed a total of 113 feet. If he started at the base camp, which was 5 feet, what was his elevation at the end of the third day?

Practicing Together

1. A submarine dove 852 feet. It rose at a rate of 32 feet per minute. What was the depth of the submarine after 12 minutes?

The submarine rose 384 feet and was at 468 feet below sea level, or –468.

2. The height of water in a tank is 24 inches. Each week, the height decreases by 2 inches. What is the height of the water after 7 weeks?

10 inches
$24 - 7 \times 2 = 10$

3. It was a chilly weather day today. The temperature started at –7° in the morning and then dropped to –15° at noon. It stayed at –15° for 3 hours and then rose 6° by 5 p.m. What was the temperature at 5 p.m.?

The temperature was –9° at 5 p.m.
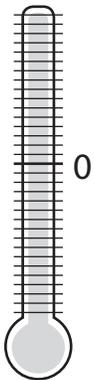
0

4. A hiker was climbing Mount St. Helens. He climbed for 3 days. Each day, he climbed a total of 113 feet. If he started at the base camp, which was 5 feet, what was his elevation at the end of the third day?

344 feet above sea level, or +344 feet

Trying It on Your Own

1. The price of a stock for a new cereal started at $15. It increased $3 each day for 8 consecutive days. What was the value of the stock after 8 days?

      a. $24

      b. $36

      c. $39

      d. $53

2. The value of a car is decreasing at a rate of $225 per year. How many years will it take for the car's value to decrease a total of $1,350? Select an expression that could be used to solve.

      a. $1,350 \div 225$

      b. $1,350(225)$

      c. $1,350 + 225$

      d. $225 \div 1,350$

Trying It on Your Own

1. The price of a stock for a new cereal started at $15. It increased $3 each day for 8 consecutive days. What was the value of the stock after 8 days?

    a. $24

    b. $36

    c. $39

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    a. $1,350 \div 225$

    b. $1,350(225)$

    c. $1,350 + 225$

    d. $225 \div 1,350$

3. Kathleen had to solve the following word problem. A group of hikers are descending down a mountain at a rate of 200 feet per hour. What is the change in elevation after 6 hours? Kathleen wrote that the change in elevation was about 33 feet. The teacher said that this answer was wrong. What did Kathleen do wrong?

    a. She divided 200 by 6, but because the hikers were descending, the answer should be about –33, or 33 feet below.

    b. She should have added 200 and 6. The correct answer should be 206.

    c. She should have multiplied –200 x 6. The answer is –1,200 feet.

    d. Her answer is almost right, but she divided incorrectly. The correct answer is 33.33 feet.

4. The population of a small town is losing 312 people per year. How long will it take for the population to decrease by 2,496 people?

    a. 6.5 years

    b. 8 years

    c. 7 years

    d. 7.5 years

3. Kathleen had to solve the following word problem. A group of hikers are descending down a mountain at a rate of 200 feet per hour. What is the change in elevation after 6 hours? Kathleen wrote that the change in elevation was about 33 feet. The teacher said that this answer was wrong. What did Kathleen do wrong?

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4. The population of a small town is losing 312 people per year. How long will it take for the population to decrease by 2,496 people?

    a. 6.5 years

    b. 8 years

    c. 7 years

    d. 7.5 years

Learning to Solve

_____

_____

_____

_____

_____

_____

$2 + 10 \div 5(1) + (-4) =$ _____

$-9 \cdot 3 + (5 - 2) \div 1 =$ _____

Learning to Solve

Order of operations

Parentheses

Exponents

Multiplication

Division

Addition

Subtraction

$2 + 10 \div 5(1) + (-4) = \underline{0}$

$-9 \cdot 3 + (5 - 2) \div 1 = \underline{-24}$

Practicing Together

Simplify each expression using order of operations.

1. $2 \cdot (-6) \div (-6 \times 2) =$ _____

2. $-4 + 7 - (-1) + 9 =$ _____

3. $(6 - 10) \div (4 \div -2) =$ _____

4. $1 \times (-3)(-3 + 2) =$ _____

Practicing Together

Simplify each expression using order of operations.

1. $2 \cdot (-6) \div (-6 \times 2) = \underline{1}$

2. $-4 + 7 - (-1) + 9 = \underline{13}$

3. $(6 - 10) \div (4 \div -2) = \underline{2}$

4. $1 \times (-3)(-3 + 2) = \underline{3}$

Trying It on Your Own

Using order of operations, simplify these expressions.

1. 5 ÷ 1 + 8(−8)

      a. 59

      b. −59

      c. −14.4

      d. −13

2. 5 + (−7) − (−3) + 2

      a. −7

      b. −3

      c. 7

      d. 3

Trying It on Your Own

Using order of operations, simplify these expressions.

1. 5 ÷ 1 + 8(−8)

     a. 59

     b. −59

     c. −14.4

     d. −13

2. 5 + (−7) − (−3) + 2

     a. −7

     b. −3

     c. 7

     d. 3

3. Sophia simplified the expression $(6 - 10) \div (4 \div (-2))$. Her answer was –8. Is she correct?

   a. Yes, she is correct.

   b. No, she is incorrect. The answer should be –2 because 6 – 10 is equal to –4 and 4 divided by –2 is –2.

   c. No, she is incorrect. The answer should be +2 because 6 – 10 is equal to –4 and 4 divided by –2 is –2.

   d. No, she is incorrect because she did not use order of operations correctly. Division is always before addition or subtraction. So 4 divided by –2 is –2. Then 10 divided by –2 is –5. The last step is 6 – 5 and the correct answer or difference is 1.

4. What is the first step in the order of operations to simplify the expression $3(9) + (-5 - (-8)) + 13$?

   a. –5 – (–8) because it is in parentheses.

   b. 3(9) because it is first when you read the problem from left to right.

   c. 3(9) should be done first because it will be easier to add 27 to 3.

   d. –5 – (–8) because it will make it easier to add 13.

3. Sophia simplified the expression (6 − 10) ÷ (4 ÷ (−2)). Her answer was −8. Is she correct?

    a. Yes, she is correct.

    b. No, she is incorrect. The answer should be −2 because 6 − 10 is equal to −4 and 4 divided by −2 is −2.

    c. No, she is incorrect. The answer should be +2 because 6 − 10 is equal to −4 and 4 divided by −2 is −2.

    d. No, she is incorrect because she did not use order of operations correctly. Division is always before addition or subtraction. So 4 divided by −2 is −2. Then 10 divided by −2 is −5. The last step is 6 − 5 and the correct answer or difference is 1.

4. What is the first step in the order of operations to simplify the expression 3(9) + (−5 − (−8)) + 13?

    a. −5 − (−8) because it is in parentheses.

    b. 3(9) because it is first when you read the problem from left to right.

    c. 3(9) should be done first because it will be easier to add 27 to 3.

    d. −5 − (−8) because it will make it easier to add 13.

Warming Up

Complete the table.

Generalization	When true (always, sometimes, never)	Example
A negative integer minus a negative integer equals a negative integer.		
A positive integer times a negative integer equals a negative integer.		
A positive integer plus a positive integer equals a positive integer.		
A negative integer divided by a negative integer equals a negative integer.		
A positive integer plus a negative integer equals a negative integer.		
A negative integer plus a negative integer equals a positive integer.		
A positive integer divided by a negative integer equals a positive integer.		

Warming Up

Complete the table.

Generalization	When true (always, sometimes, never)	Example
A negative integer minus a negative integer equals a negative integer.	sometimes	
A positive integer times a negative integer equals a negative integer.	always	
A positive integer plus a positive integer equals a positive integer.	always	
A negative integer divided by a negative integer equals a negative integer.	never	
A positive integer plus a negative integer equals a negative integer.	sometimes	
A negative integer plus a negative integer equals a positive integer.	never	
A positive integer divided by a negative integer equals a positive integer.	never	

Learning to Solve

Fill in the blanks to help you remember the order of operations.

P: _____

E: _____

M: _____

D: _____

A: _____

S: _____

1. $4(-6 + 5) =$ _____

2. A store sells ribbons for $3 each and pins for $2. Cora buys 3 ribbons and a pin. Jack buys 2 ribbons and 5 pins. Find the total amount spent.

Learning to Solve

Fill in the blanks to help you remember the order of operations.

P: <u>parentheses and other groupings</u>

E: <u>exponents</u>

M: <u>multiplication</u>

D: <u>division</u>

A: <u>addition</u>

S: <u>subtraction</u>

1. $4(-6 + 5) = $ <u>-4</u>

2. A store sells ribbons for \$3 each and pins for \$2. Cora buys 3 ribbons and a pin. Jack buys 2 ribbons and 5 pins. Find the total amount spent.

\$27 3 (3) + 2 + 2(3) + 5(2)
OR
3(3 + 2) + 6(2)

Practicing Together

1. Ami and 2 of her friends went to the movies. Each ticket cost $6. They also bought 2 large popcorns at $7 each and 3 bottles of water at $3 each. How much change did they get from $50?

Use order of operations to simplify.

2. $(10 - 4) \div (1)2 =$ _____

3. $-9 + (-7) - (-5 + 2) =$ _____

Practicing Together

1. Ami and 2 of her friends went to the movies. Each ticket cost $6. They also bought 2 large popcorns at $7 each and 3 bottles of water at $3 each. How much change did they get from $50?

$9.00

$50 - 3(6) - 2(7) - 3(3)$

Use order of operations to simplify.

2. $(10 - 4) \div (1)2 = $ ___3___

3. $-9 + (-7) - (-5 + 2) = $ ___-13___

Trying It on Your Own

1. Paul is on a snow ski vacation. He didn't go skiing on Monday because the temperature of −6 degrees was too cold. On Tuesday and Wednesday, the temperature dropped another 5 degrees each day. Thursday, the sun came out and the temperature increased by 30 degrees. What was the temperature on Thursday?

 a. 26 degrees

 b. 14 degrees

 c. 46 degrees

 d. 34 degrees

2. Carol said that the solution to −3(−4+1) + 10 was 1. Is her answer and explanation correct?

 a. No, the answer is 19, because −4+1 = −3, −3(−3) = 9, and 9+10 = 19.

 b. No, the answer is 25, because −4+1 = −5, −3(−5) = 15, and 15+10 = 25.

 c. Yes, the answer is 1, because −4+1 = −3, −3(−3) = −9, and −9+10 = 1.

 d. No, the answer is −5, because −4+1=5, −3(5) = −15, and −15+10=−5

Trying It on Your Own

1. Paul is on a snow ski vacation. He didn't go skiing on Monday because the temperature of –6 degrees was too cold. On Tuesday and Wednesday, the temperature dropped another 5 degrees each day. Thursday, the sun came out and the temperature increased by 30 degrees. What was the temperature on Thursday?

    a. 26 degrees

    b. 14 degrees

    c. 46 degrees

    d. 34 degrees

2. Carol said that the solution to $-3(-4+1) + 10$ was 1. Is her answer and explanation correct?

    a. No, the answer is 19, because $-4+1 = -3$, $-3(-3) = 9$, and $9+10 = 19$.

    b. No, the answer is 25, because $-4+1 = -5$, $-3(-5) = 15$, and $15+10 = 25$.

    c. Yes, the answer is 1, because $-4+1 = -3$, $-3(-3) = -9$, and $-9+10 = 1$.

    d. No, the answer is –5, because $-4+1=5$, $-3(5) = -15$, and $-15+10=-5$

3. Audrey had –$85 in her checking account. She made a deposit so that she now has $25 in the bank. What was the amount of the deposit?

      a. $50

      b. $100

      c. $60

      d. $110

4. Use order of operations to simplify.

$$6 + -8(2) - 3$$

      a. –13

      b. –7

      c. –19

      d. 25

3. Audrey had –$85 in her checking account. She made a deposit so that she now has $25 in the bank. What was the amount of the deposit?

      a. $50

      b. $100

      c. $60

      d. $110

4. Use order of operations to simplify.

$$6 + -8(2) - 3$$

      a. –13

      b. –7

      c. –19

      d. 25

Warming Up

1. Define "integer":

2. Model integers on the number line: –4, 0, 4, –6, 3, –1

0
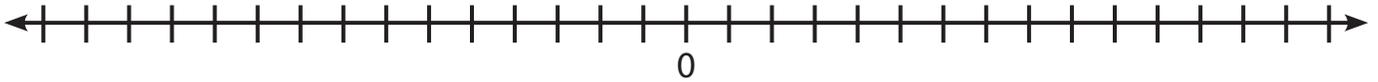
Model integers using pictures of chips:

3. Define "absolute value":

4. Compare: |–234| _____ 136 |–93| _____ |–12|

Warming Up

1. Define "integer":   a whole number and its opposite, including 0

2. Model integers on the number line: –4, 0, 4, –6, 3, –1
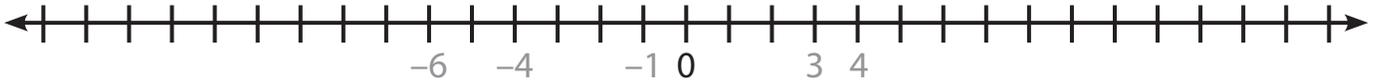
Model integers using pictures of chips:

3. Define "absolute value":   a non-negative number that describes the distance
of a number from 0 on a number line

4. Compare: |–234| __>__ 136 |–93| __>__ |–12|

Learning to Solve

1. Sean had $115 in the bank. He spent $35 on jeans and $63 on 3 shirts. He deposited $45 in the bank. How much does he have in the bank now?

2. Margo was playing a trivia game. Each correct answer is worth 200 points, but if she answers incorrectly, she loses 300 points. She ended the game with –300 points. If she answered 6 questions, how many did she get correct? How many did she get incorrect?

Learning to Solve

1. Sean had $115 in the bank. He spent $35 on jeans and $63 on 3 shirts. He deposited $45 in the bank. How much does he have in the bank now?

$62

2. Margo was playing a trivia game. Each correct answer is worth 200 points, but if she answers incorrectly, she loses 300 points. She ended the game with –300 points. If she answered 6 questions, how many did she get correct? How many did she get incorrect?

3 questions correct, 3 questions incorrect

Practicing Together

1. The average temperature in Alaska for the last week was –12°. The previous week, the temperature was twice as cold. What was the average temperature the previous week?

2. Ellen dove 12 feet under water. She swam up 7 feet and then dove back down 6 feet. What is her current depth?

Practicing Together

1. The average temperature in Alaska for the last week was −12°. The previous week, the temperature was twice as cold. What was the average temperature the previous week?

−12° x 2 = −24°

2. Ellen dove 12 feet under water. She swam up 7 feet and then dove back down 6 feet. What is her current depth?

−11 feet −12 + 7 − 6 = −11

Trying It on Your Own

1. Scuba Steve descended 32 feet below sea level. His friend, Rachel, dove 5 times more feet below sea level than Scuba Steve. What is Rachel's current depth?

      a. −150 feet, or 150 feet below sea level

      b. −160 feet, or 160 feet below sea level

      c. −6.4 feet, or 6.4 feet below sea level

      d. −128 feet, or 128 feet below sea level

2. Kayla and Tyler both collect baseball cards. Tyler has 12 times as many cards as Kayla. If Tyler has 264 cards, how many cards does Kayla have? Which expression can be used to solve this question?

      a. 264 + 12

      b. 264 − 12

      c. 264(12)

      d. 264 ÷ 12

Trying It on Your Own

1. Scuba Steve descended 32 feet below sea level. His friend, Rachel, dove 5 times more feet below sea level than Scuba Steve. What is Rachel's current depth?

      a. −150 feet, or 150 feet below sea level

      b. −160 feet, or 160 feet below sea level

      c. −6.4 feet, or 6.4 feet below sea level

      d. −128 feet, or 128 feet below sea level

2. Kayla and Tyler both collect baseball cards. Tyler has 12 times as many cards as Kayla. If Tyler has 264 cards, how many cards does Kayla have? Which expression can be used to solve this question?

      a. 264 + 12

      b. 264 − 12

      c. 264(12)

      d. 264 ÷ 12

3. A submarine at the surface of the Pacific Ocean descends 8 feet every minute. Which equation represents the position of the submarine after 2 hours?

      a. $-8 \times 1 \times 2 = -64$

      b. $(-8 + 1) \times 120 = -840$

      c. $-8 \times 1 \times 120 = -960$

      d. $2 \times (-8) \times 120 = -1920$

4. Antarctica is very cold in the winter. Its lowest recorded temperature was $-128°$. Finland is also very cold. Its lowest recorded temperature was $-50°$. What is the difference in these 2 temperatures?

      a. $-178°$

      b. $178°$

      c. $-77°$

      d. $78°$

3. A submarine at the surface of the Pacific Ocean descends 8 feet every minute. Which equation represents the position of the submarine after 2 hours?

    a. $-8 \times 1 \times 2 = -64$

    b. $(-8 + 1) \times 120 = -840$

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    a. $-178°$

    b. $178°$

    c. $-77°$

    d. $78°$

Warming Up

Write 4 expressions that equal –36.

+	–
×	÷

Write 4 expressions that equal 28.

+	–
×	÷

Warming Up

Write 4 expressions that equal −36.

+	−
×	÷

Answers may very such as −6 + (−30); −42 - 6; 6 × (−6); and −72 ÷ 2.

Write 4 expressions that equal 28.

+	−
×	÷

Answers may very such as −6 + (−22); −22 - 6; 7 × −4; and 56 ÷ (−2).

Learning to Solve

1. Hunter read 15 books in October. He read 3 times as many books as Paul. How many books did Paul read?

2. The middle school football team scored 4 field goals worth 3 points each and 3 touchdowns with extra points worth 7 points each. What was the team's total points?

3. Misha was saving money for her summer vacation. Every week for 16 weeks, she put $8 in her special fund. She took $30 out of her fund to buy clothes for the vacation. How much money is in her fund?

4. James played a trivia game. For every correct answer, he scored 150 points. For every incorrect answer, he lost 200 points. He got 4 questions correct and 6 questions incorrect. What was his final score?

Learning to Solve

1. Hunter read 15 books in October. He read 3 times as many books as Paul. How many books did Paul read?

Paul read 5 books.

2. The middle school football team scored 4 field goals worth 3 points each and 3 touchdowns with extra points worth 7 points each. What was the team's total points?

The team's total was 33 points.

3. Misha was saving money for her summer vacation. Every week for 16 weeks, she put $8 in her special fund. She took $30 out of her fund to buy clothes for the vacation. How much money is in her fund?

$98

4. James played a trivia game. For every correct answer, he scored 150 points. For every incorrect answer, he lost 200 points. He got 4 questions correct and 6 questions incorrect. What was his final score?

–600

Trying It on Your Own

1. It costs $300 per person to take a bus tour of Las Vegas. Brian has 4 friends and 2 family members coming to visit at different times and wants to take them all on the tour. Not counting himself, how much will he spend to take his family and friends on the tour?

    a. $300

    b. $1,800

    c. $1,200

    d. $600

2. Sam bought 3 hot dogs for $2 each, 2 fries for $1 each, and 3 drinks for $2 each. He paid with a $20 bill. How much change will he get back? Which expression models the problem?

    a. 3(2) + 2(1) + 3(2) + 20

    b. 3 + 2 + 2 + 1 + 3 + 2 + 20

    c. 20 − 3(2) + 2(1) + 3(2)

    d. 20 − 3(2) − 2(1) − 3(2)

Trying It on Your Own

1. It costs $300 per person to take a bus tour of Las Vegas. Brian has 4 friends and 2 family members coming to visit at different times and wants to take them all on the tour. Not counting himself, how much will he spend to take his family and friends on the tour?

    a. $300

    b. $1,800

    c. $1,200

    d. $600

2. Sam bought 3 hot dogs for $2 each, 2 fries for $1 each, and 3 drinks for $2 each. He paid with a $20 bill. How much change will he get back? Which expression models the problem?

    a. $3(2) + 2(1) + 3(2) + 20$

    b. $3 + 2 + 2 + 1 + 3 + 2 + 20$

    c. $20 - 3(2) + 2(1) + 3(2)$

    d. $20 - 3(2) - 2(1) - 3(2)$

3. The temperature in Austin, Texas, at 2 p.m. was 91°. The temperature in Kansas City, Missouri, at 2 p.m. was 46°. From 3 p.m. to 8 p.m., the temperature dropped 5° every hour in both Austin and Kansas City. What is the difference in temperature between the 2 places at 8 p.m.?

      a. There was a 21° difference between Austin and Kansas City.

      b. There is not enough information to determine.

      c. There was a 45° difference between Austin and Kansas City.

      d. There was a 66° difference between Austin and Kansas City.

4. Sara simplified an expression and got an answer of –13. Which expression could she have simplified?

      a. $-5(3 - 2) + (-2)(-4)$

      b. $5(3 - 2) - (2)(-4)$

      c. $-5(3 - 2) + (-2)(4)$

      d. $5(3 + (-2)) - (-2)(-4)$

3. The temperature in Austin, Texas, at 2 p.m. was 91°. The temperature in Kansas City, Missouri, at 2 p.m. was 46°. From 3 p.m. to 8 p.m., the temperature dropped 5° every hour in both Austin and Kansas City. What is the difference in temperature between the 2 places at 8 p.m.?

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      a. $-5(3 - 2) + (-2)(-4)$

      b. $5(3 - 2) - (2)(-4)$

      c. $-5(3 - 2) + (-2)(4)$

      d. $5(3 + (-2)) - (-2)(-4)$

Appendices

Integers

Warming Up

Warming Up

200

100

0

+25

0

−25

Learning to Solve

On your number line, place the integers in their correct position.

1. Order from least to greatest: +1, −6, +13, −9

0

2. Order from least to greatest: 0, −14, 9, |−4|

0

3. Label 0, −4, and 4 on the number line. With your red and yellow pencils, draw a red line from 0 to −4 and a yellow line from 0 to +4.

0

4. Label −3, |−4|, |−3|, 5, −1, and |2|.

0
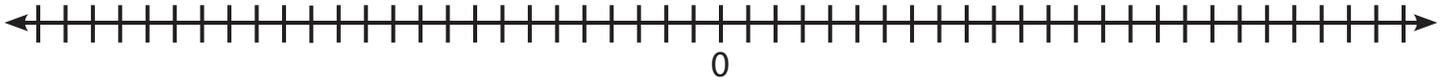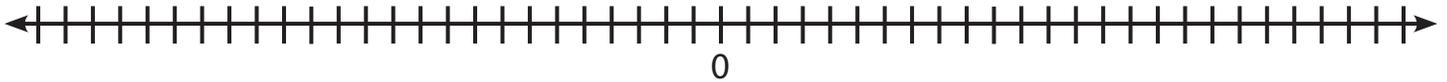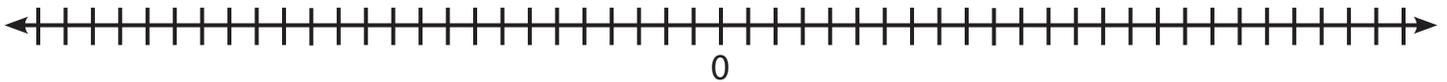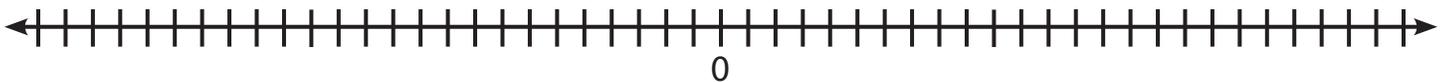
Learning to Solve

On your number line, place the integers in their correct position.

1. Order from least to greatest: +1, –6, +13, –9

−9, −6, 1, 13

0
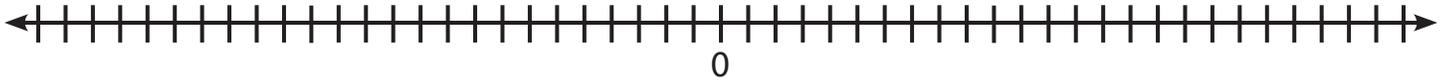
2. Order from least to greatest: 0, –14, 9, |–4|

−14, 0, |−4|, 9
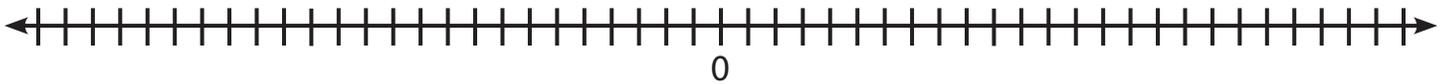
0

3. Label 0, –4, and 4 on the number line. With your red and yellow pencils, draw a red line from 0 to –4 and a yellow line from 0 to +4.

0

4. Label –3, |–4|, |–3|, 5, –1, and |2|.

0
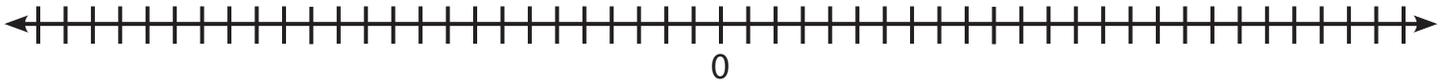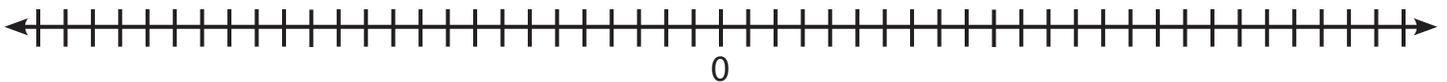
5, |−4|, |−3|, 2, −1, −3

Practicing Together

1. Place these integers in the appropriate spot on the number line: −26, 19, 16, −13, −4, 21.
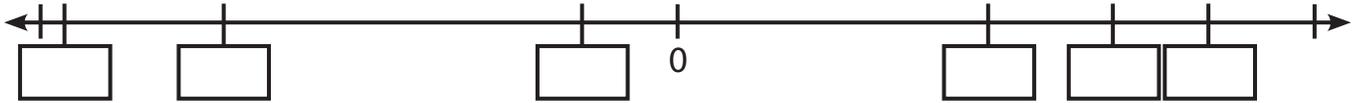
2. Add the correct sign to each plotted number.
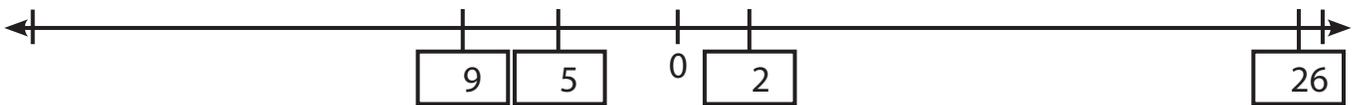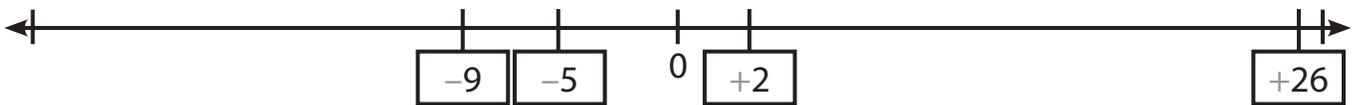
3. Jerry knows that there are 2 numbers that have an absolute value of 7. What 2 numbers was Jerry thinking about?

4. Write 2 integers between −5 and −11. _____

5. Order the integers from least to greatest. 2, |3|, −12, |−7|, −3, −1, |−5|

Practicing Together

1. Place these integers in the appropriate spot on the number line: –26, 19, 16, –13, –4, 21.

| –26 | –13 | –4 | 0 | 16 | 19 | 21 |

2. Add the correct sign to each plotted number.

| –9 | –5 | 0 | +2 | +26 |

3. Jerry knows that there are 2 numbers that have an absolute value of 7. What 2 numbers was Jerry thinking about?

7 and –7

4. Write 2 integers between –5 and –11.   Accept any 2 integers including –6, –7, –8, –9, –10

5. Order the integers from least to greatest. 2, |3|, –12, |–7|, –3, –1, |–5|

–12,–3, –1, 2, |3|, |–5|, |–7|

Trying It on Your Own

1. Why is the absolute value of an integer always non-negative?

a. It is always the opposite value—for example, |–8| is 8 and |9| is –9.

b. It is the distance from 0 which cannot be negative.

c. It is a rule that the teacher told us in math class.

d. When you remove the absolute value bars, all signs are also removed.

2. Letty was told to order the integers 75, |–12|, |7|, –100 from greatest to least. Which is the correct order?

a. –100, |7|, |–12|, 75

b. –100, |–12|, |7|, 75

c. 75, |7|, |–12|, –100

d. 75, |–12|, |7|, –100

Trying It on Your Own

1. Why is the absolute value of an integer always non-negative?

     a. The absolute value is always the opposite value—for example, |–8| is 8 and |9| is –9.

     b. The absolute value is the distance from 0 which cannot be negative.

     c. The absolute value is a rule that the teacher told us in math class.

     d. When you remove the absolute value bars, all signs are also removed.

2. Letty was told to order the integers 75, |–12|, |7|, –100 from greatest to least. Which is the correct order?

     a. –100, |7|, |–12|, 75

     b. –100, |–12|, |7|, 75

     c. 75, |7|, |–12|, –100

     d. 75, |–12|, |7|, –100

3. Noah was explaining that –36 was greater than –14 because it was farther from 0. Is Noah's explanation correct?

      a. Noah is incorrect. –36 is less than –14 because it is farther to the left of 0. Negative numbers closer to 0 and positive numbers farther right of 0 are greater.

      b. Noah is correct. –36 is greater than –14.

      c. Noah is correct because the absolute value of –36 is greater than the absolute value of –14.

      d. Noah is incorrect because he should not be using distance from 0 to compare the numbers; his explanation is wrong.

4. Which of the following shows the integers in order from least to greatest?

0

      a. –12, |–9|, –3, |–1|, 0, |4|, 8
      b. 8, |4|, 0, |–1|, –3, |–9|, –12
      c. –12, –3, 0, |–9|, |–1|, 8
      d. –12, –3, 0, |–1|, |4|, 8, |–9|

3. Noah was explaining that –36 was greater than –14 because it was farther from 0. Is Noah's explanation correct?

   a. Noah is incorrect. –36 is less than –14 because it is farther to the left of 0. Negative numbers closer to 0 and positive numbers farther right of 0 are greater.

   b. Noah is correct. –36 is greater than –14.

   c. Noah is correct because the absolute value of –36 is greater than the absolute value of –14.

   d. Noah is incorrect because he should not be using distance from 0 to compare the numbers; his explanation is wrong.

4. Which of the following shows the integers in order from least to greatest?
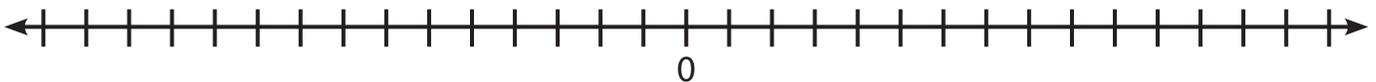
   a. –12, |–9|, –3, |–1|, 0, |4|, 8
   b. 8, |4|, 0, |–1|, –3, |–9|, –12
   c. –12, –3, 0, |–9|, |–1|, 8
   d. –12, –3, 0, |–1|, |4|, 8, |–9|

Warming Up

Sophia was on a game show that took away points for every wrong answer. She had a score of 800 but then answered 7 questions incorrectly. Each question was worth 300 points. What is her current score?

Warming Up

Sophia was on a game show that took away points for every wrong answer. She had a score of 800 but then answered 7 questions incorrectly. Each question was worth 300 points. What is her current score?

$800 + (-2100) = -1300$

Practicing Together

Find the products and answer the questions.

1. 12(–22) = _____

2. 5×26 = _____

3. –13 • –8 = _____

4. _____ = –6(31)

5. A professional video game player is rewarded 200 points for every level won. He loses 150 points every time he fails a level. After playing a total of 30 levels, he won 16 levels. How many total points does he have?

Meghan said that the video game player ended up with a negative number of points. Is Meghan correct?

How did you solve?

Practicing Together

Find the products and answer the questions.

1. 12(–22) = _–264_

2. 5 × 26 = _130_

3. –13 · –8 = _104_

4. _–186_ = –6(31)

5. A professional video game player is rewarded 200 points for every level won. He loses 150 points every time he fails a level. After playing a total of 30 levels, he won 16 levels. How many total points does he have?

16 x 200 = 3,200; 14 x 150 = 2,100; 3,200 – 2,100 = 1,100 total points

Meghan said that the video game player ended up with a negative number of points. Is Meghan correct?

No, Megan is incorrect.

How did you solve?

Answers will vary such as first you subtract the number of wins, 16, from the number of levels he played, 30, which equals 16 wins and 14 fails; then you multiply the number of points he got for winning, 200, by the number of wins, 16. Then you multiply the number of points he lost for failing, 150, by the number of fails, 14. Finally, you subtract the number of points for failing from the number of points for winning, so 3,200 minus 2,100 equals 1,100, which is a positive number.

Trying It on Your Own

Find the product.

1. _____ = −16(−14)
     a. −224
     b. 224
     c. −30
     d. 30

2. Using the commutative property, −4 x −5 has the same product as which of the following?
     a. −4 × 5
     b. 4 × −5
     c. −5 × 4
     d. −5 × −4

Trying It on Your Own

Find the product.

1. _____ = −16(−14)

    a. −224

    b. 224

    c. −30

    d. 30

2. Using the commutative property, −4 x −5 has the same product as which of the following?

    a. -4×5

    b. 4×-5

    c. -5×4

    d. -5×-4

3. Nola solved this word problem. On a winter night in Minnesota, the temperature was –4° at 9 p.m. At 6 a.m. the next day, the weatherman announced that it was 3 times colder. Nola wrote that the temperature was 12°. Is she correct? What should she do to solve?

      a. No, she is incorrect. The temperature is –12° because it was 3 times colder. She should have multiplied –4 by 3, which equals –12.

      b. Yes, she is correct because $3 \times -4 = -12$.

      c. No, she is incorrect because the answer is –16°. First, she should have multiplied –4 by 3 and then added –4 because that was the original temperature.

      d. Yes, she is correct because 3 times colder would make it positive.

4. Michael wrote the following example, $8(9) = -72$ for the generalization that a positive integer times a positive integer equals a negative integer. Is his example correct? Why or why not?

      a. Yes, his example matches the correct generalization.

      b. No, his example is incorrect because his generalization is wrong. A positive integer times a positive integer equals a positive product.

      c. No, his example is incorrect because 8(9) is equal to 64 not 72.

      d. No, his example is incorrect because the product, 72 should be positive because you take the sign of the greater number and 9 is positive.

3. Nola solved this word problem. On a winter night in Minnesota, the temperature was –4° at 9 p.m. At 6 a.m. the next day, the weatherman announced that it was 3 times colder. Nola wrote that the temperature was 12°. Is she correct? What should she do to solve?

   a. No, she is incorrect. The temperature is –12° because it was 3 times colder. She should have multiplied –4 by 3, which equals –12.

   b. Yes, she is correct because 3 × –4 = –12.

   c. No, she is incorrect because the answer is –16°. First, she should have multiplied –4 by 3 and then added –4 because that was the original temperature.

   d. Yes, she is correct because 3 times colder would make it positive.

4. Michael wrote the following example, 8(9) = –72 for the generalization that a positive integer times a positive integer equals a negative integer. Is his example correct? Why or why not?

   a. Yes, his example matches the correct generalization.

   b. No, his example is incorrect because his generalization is wrong. A positive integer times a positive integer equals a positive product.

   c. No, his example is incorrect because 8(9) is equal to 64 not 72.

   d. No, his example is incorrect because the product, 72 should be positive because you take the sign of the greater number and 9 is positive.

Warming Up

McKenzie had 704 tickets. She shared them with some friends. Each friend got 32 tickets. How many friends did she share her tickets with?

_____ number of friends

McKenzie has 704 tickets. If she shares them with 22 friends, how many tickets does each friend get?

_____ tickets

Warming Up

McKenzie had 704 tickets. She shared them with some friends. Each friend got 32 tickets. How many friends did she share her tickets with?

_____ number of friends

22 friends

McKenzie has 704 tickets. If she shares them with 22 friends, how many tickets does each friend get?

_____ tickets

11 tickets

Practicing Together

Find the quotients and answer the questions.

1. _____ = $-6 \div (-1)$

2. $30 \div (-3) =$ _____

3. $-9 \overline{)54}$ = _____

4. $24 \div -2 =$ _____

5. A football team lost a total of 27 yards on 3 plays in the second quarter. They lost the same amount of yards on each play. How many yards did they lose on each play?

Practicing Together

Find the quotients and answer the questions.

1. ___6___ = −6 ÷ (−1)

2. 30 ÷ (−3) = ___−10___

3. −9$\overline{)54}$ = ___−6___

4. 24 ÷ −2 = ___−12___

5. A football team lost a total of 27 yards on 3 plays in the second quarter. They lost the same amount of yards on each play. How many yards did they lose on each play?

−27 ÷ 3 = −9

Trying It on Your Own

Find the quotient.

1. _____ = −52 ÷ −4

     a. −208

     b. 208

     c. −13

     d. 13

2. −28 ÷ −7 = _____

     a. 196

     b. −4

     c. 4

     d. −196

Trying It on Your Own

Find the quotient.

1. _____ = −52 ÷ −4

   a. −208

   b. 208

   c. −13

   d. 13

2. −28 ÷ −7 = _____

   a. 196

   b. −4

   c. 4

   d. −196

3. Which of the following division equations could be part of the fact family for
$-7 \times 5 = -35$?

       a. $5 \div -35 = 7$

       b. $-35 \div 5 = -7$

       c. $-7 \div -35 = 5$

       d. $-35 \div -5 = 7$

4. Amy said, "You can use the commutative property with division." Do you agree with Amy? Why or why not?

       a. Yes, I agree because you can use the commutative property with multiplication.

       b. Yes, I agree because, for example, $12 \div 3 = 4$ is the same as $12 \div 4 = 3$.

       c. No, I disagree because $12 \div 3 \neq 3 \div 12$.

       d. You cannot tell. It depends on the problem.

3. Which of the following division equations could be part of the fact family for $-7 \times 5 = -35$?

      a. $5 \div -35 = 7$

      b. $-35 \div 5 = -7$

      c. $-7 \div -35 = 5$

      d. $-35 \div -5 = 7$

4. Amy said, "You can use the commutative property with division." Do you agree with Amy? Why or why not?

      a. Yes, I agree because you can use the commutative property with multiplication.

      b. Yes, I agree because, for example, $12 \div 3 = 4$ is the same as $12 \div 4 = 3$.

      c. No, I disagree because $12 \div 3 \neq 3 \div 12$.

      d. You cannot tell. It depends on the problem.

Notes

INTEGERS

Example											
Picture											
Generalizations											

Name

Graph Your Progress

Total Number Correct

4

3

2

1

0

Number Correct

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
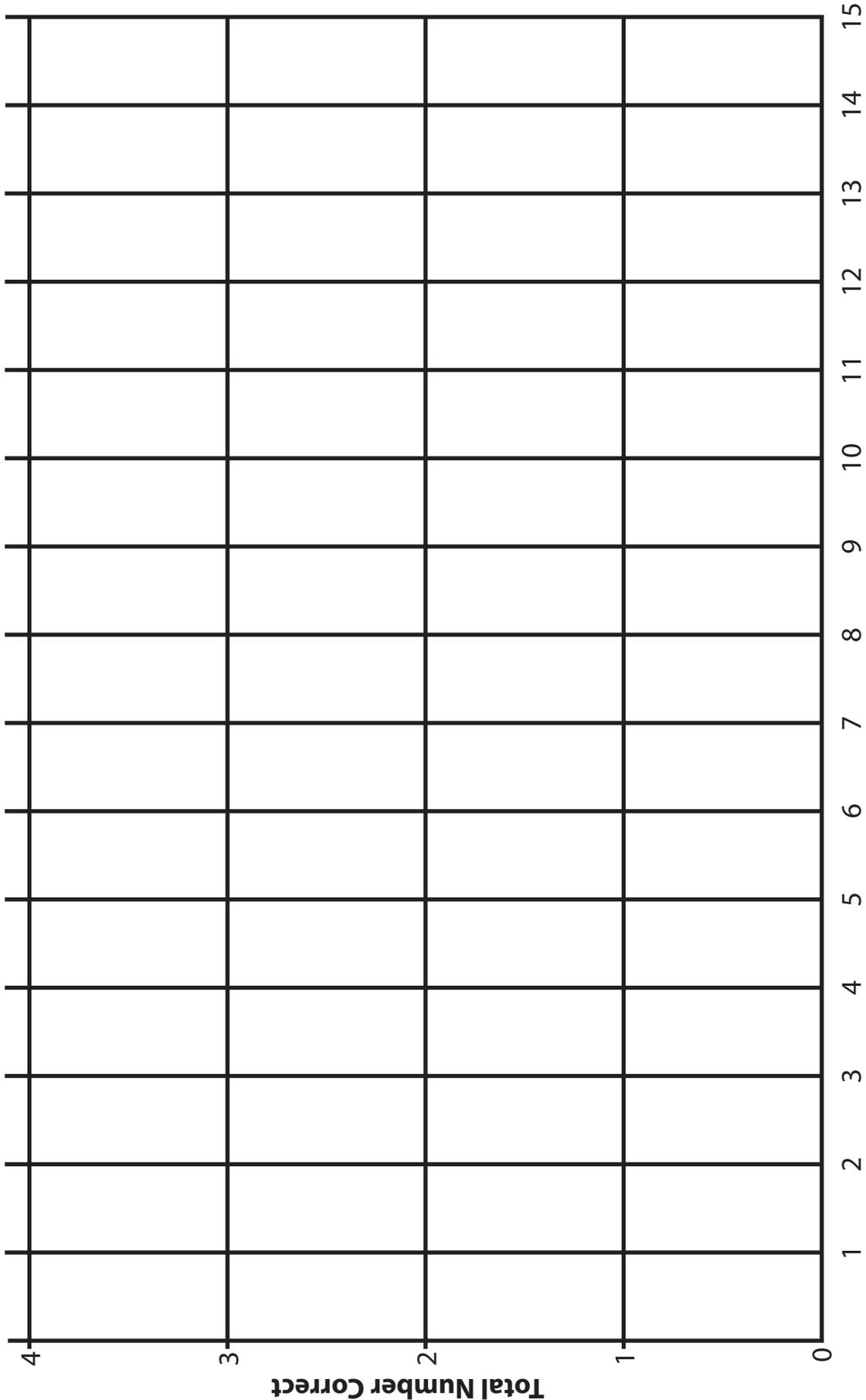
Lesson Number

Integers

Extra Practice

Additional Practice

1. A. What is the value modeled in this diagram? $\bigcirc$ = +1   ● = −1

$\bigcirc$ $\bigcirc$ $\bigcirc$
● ●

    a. −2
    b. +3
    c. +1
    d. 0
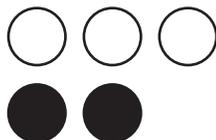
B. Draw another model for the value.

2. Jose modeled +5, using 2-colored chips. Which diagram shows +5 modeled correctly?

$\bigcirc$ = +1   ● = −1

$\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$
a. ● ● ●

● ● ● ● ● ● ● ●
b. $\bigcirc$ $\bigcirc$ $\bigcirc$

c. $\bigcirc$ $\bigcirc$ $\bigcirc$ ● ●
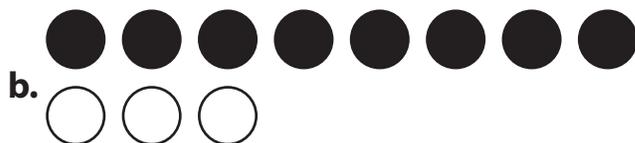
d. Both a and b.

Additional Practice

1. A. What is the value modeled in this diagram?   ○ = +1   ● = −1

a. −2
b. +3
c. +1
d. 0
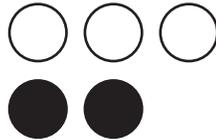
B. Draw another model for the value.

Answers will vary. For example, students may draw any combination of 2-color chips such that there is one more yellow chip than red. Accept only 1 yellow chip as correct.

2. Jose modeled +5, using 2-colored chips. Which diagram shows +5 modeled correctly?

○ = +1   ● = −1

a.

b.

c.
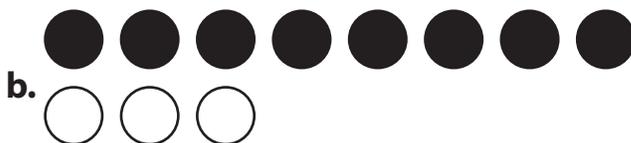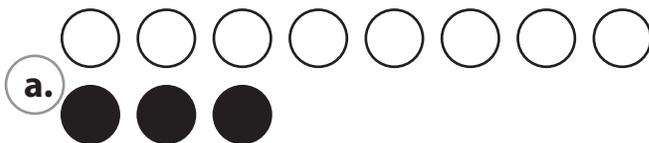
d. Both a and b.

3. Which model shows the opposite of +3?

◯ = +1   ● = −1

a. ◯ ◯ ◯

b. ● ● ●

c. ● ◯ ◯

d. ● ● ◯

3. Which model shows the opposite of +3?

⚪ = +1   ⚫ = −1

a. ⚪ ⚪ ⚪

b. ⚫ ⚫ ⚫

c. ⚫ ⚪ ⚪

d. ⚫ ⚫ ⚪

Additional Practice
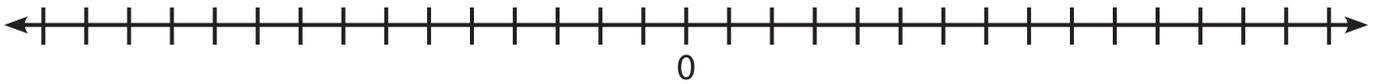
1.

0

    A. Place these integers on the number line: –7, 1, 6, –8, –5, –3, 4

    B. Write the integers in order from greatest to least. –7, 1, 6, –8, –5, –3, 4

2. Order these integers from least to greatest: –1, –4, 0, 2, 8, –10, 12

3. Find the absolute value.

    A. $|-8|$

    B. $|17|$

    C. $|0|$

    D. $|-1|$

Additional Practice
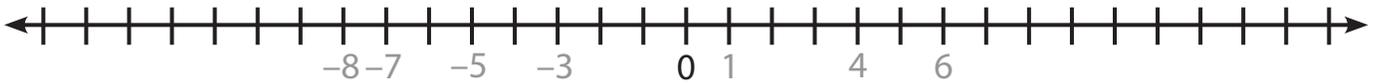
1.

-8 -7   -5   -3   0 1   4   6

    A. Place these integers on the number line: –7, 1, 6, –8, –5, –3, 4

    B. Write the integers in order from greatest to least. –7, 1, 6, –8, –5, –3, 4

       6, 4, 1, –3, –5, –7, –8

2. Order these integers from least to greatest: –1, –4, 0, 2, 8, –10, 12

3. Find the absolute value.

    A. $|-8|$ 8

    B. $|17|$ 17

    C. $|0|$ 0

    D. $|-1|$ 1

Additional Practice

Select the correct sum. You may use 2-colored chips or drawings to help you.

1. $-3 + (-9) = $ _____
     a. -6
     b. -12
     c. 6
     d. 12

2. $-7 + 4 = $ _____
     a. -3
     b. 3
     c. -11
     d. 11

Additional Practice

Select the correct sum. You may use 2-colored chips or drawings to help you.

1. −3 + (−9) = _____

    a. −6
    (b.) −12
    c. 6
    d. 12

2. −7 + 4 = _____

    (a.) −3
    b. 3
    c. −11
    d. 11

3. $5 + (-9) =$ _____

    a. −4

    b. 14

    c. 4

    d. −14

4. $8 + (-7) =$ _____

    a. 15

    b. 1

    c. −15

    d. −1

3. $5 + (-9) =$ _____

   a. -4

   b. 14

   c. 4

   d. -14

4. $8 + (-7) =$ _____

   a. 15

   b. 1

   c. -15

   d. -1

Additional Practice

Select the correct difference. You may use 2-colored chips or drawings to help you.

1. −6 − (−7) = _____

    a. −13

    b. 1

    c. 13

    d. −1

2. −10 − 3 = _____

    a. 13

    b. 7

    c. −7

    d. −13

Additional Practice

Select the correct difference. You may use 2-colored chips or drawings to help you.

1. $-6 - (-7) =$ _____

    a. -13

    b. 1

    c. 13

    d. -1

2. $-10 - 3 =$ _____

    a. 13

    b. 7

    c. -7

    d. -13

3. −14 − (-4) = _____

     a. −18

     b. −10

     c. 18

     d. 10

4. 9 − (−8) = _____

     a. 17

     b. 1

     c. −17

     d. −1

3. −14 − (-4) = _____

    a. −18

    b. −10

    c. 18

    d. 10

4. 9 − (−8) = _____

    a. 17

    b. 1

    c. −17

    d. −1

Additional Practice

1. Find the sums.

   A. $-8 + (-6) =$ _____

   B. $3 + (-10) =$ _____

   C. $-12 + 17 =$ _____

2. Find the differences.

   A. $-11 - (-8) =$ _____

   B. $9 - (-12) =$ _____

   C. $-8 - 10 =$ _____

3. The temperature at 9 am was 68°. By noon, the temperature fell 6°. By 4 pm, the temperature rose 8°. What was the temperature at 4 pm?

Additional Practice

1. Find the sums.

      A. $-8 + (-6) =$ -14

      B. $3 + (-10) =$ -7

      C. $-12 + 17 =$ 5

2. Find the differences.

      A. $-11 - (-8) =$ -3

      B. $9 - (-12) =$ 21

      C. $-8 - 10 =$ -18

3. The temperature at 9 am was 68°. By noon, the temperature fell 6°. By 4 pm, the temperature rose 8°. What was the temperature at 4 pm?

    70°

Additional Practice

1. Complete the Magic Square so that the sum of each of each row, column, and diagonal equals 15. Use numbers: 1, 2, 5, and 6.

8	3	4
		9
	7	

2. Jonathan found a missing value in a problem. He said the missing value was –9. For which equation is –9 the missing value?

    a. _____ $+ -4 = -13$
    b. _____ $- 4 = 13$
    c. $14 +$ _____ $= -5$
    d. $14 -$ _____ $= 5$

Additional Practice

1. Complete the Magic Square so that the sum of each of each row, column, and diagonal equals 15. Use numbers: 1, 2, 5, and 6.

8	3	4
1	5	9
6	7	2

2. Jonathan found a missing value in a problem. He said the missing value was –9. For which equation is –9 the missing value?

    a. _____ $+ -4 = -13$

    b. _____ $- 4 = 13$

    c. $14 +$ _____ $= -5$

    d. $14 -$ _____ $= 5$

3. A kite was at 60 feet above ground level. It ascended 300 feet above the ground level. What is its current position?

      a. −300, or 300 feet above ground level.

      b. 300, or −300 below ground level.

      c. 360, or 360 feet above ground level.

      d. −60, or 60 feet below ground level.

3. A kite was at 60 feet above ground level. It ascended 300 feet above the ground level. What is its current position?

      a. –300, or 300 feet above ground level.

      b. 300, or –300 below ground level.

      c. 360, or 360 feet above ground level.

      d. –60, or 60 feet below ground level.

Additional Practice

Place >, <, or = in the blank.

1. −8 + 22 _____ −40 + 26

2. −12 + (−35) _____ −32 + (−15)

3. 75 + 18 _____ −75 + (−18)

4. −15 + 36 _____ −36 + 60

Additional Practice

Place >, <, or = in the blank.

1. −8 + 22 __>__ −40 + 26

2. −12 + (−35) __=__ −32 + (−15)

3. 75 + 18 __>__ −75 + (−18)

4. −15 + 36 __<__ −36 + 60

Additional Practice

1. Jim had $150 in the bank. He spent $27, $33, $14, and $17 buying clothes for school. His mom put $25 in the bank as a surprise. How much money does he have in the bank now?

2. Jess was hiking on a mountain. At 785 feet above sea level, she decided to descend 25 feet. She found a new trail and ascended 52 feet. She started back down the mountain and descended 45 feet. How many feet above sea level is she now?

3. In a trivia game, the rule is that every correct answer scores 75 points. For every incorrect answer, you lose 50 points.

> **A.** Jay answered 4 questions in a row correctly. Then, he incorrectly answered 2 questions. The next 3 questions, he answered correctly. What was his ending score?

> **B.** Sherry played the trivia game, too. She answered a total of 10 questions. Her final score was 250 points. How many questions did she get correct? How many questions did she answer incorrectly?

Additional Practice

1. Jim had $150 in the bank. He spent $27, $33, $14, and $17 buying clothes for school. His mom put $25 in the bank as a surprise. How much money does he have in the bank now?

$84

2. Jess was hiking on a mountain. At 785 feet above sea level, she decided to descend 25 feet. She found a new trail and ascended 52 feet. She started back down the mountain and descended 45 feet. How many feet above sea level is she now?

767 feet

3. In a trivia game, the rule is that every correct answer scores 75 points. For every incorrect answer, you lose 50 points.

    A. Jay answered 4 questions in a row correctly. Then, he incorrectly answered 2 questions. The next 3 questions, he answered correctly. What was his ending score?

    425 points

    B. Sherry played the trivia game, too. She answered a total of 10 questions. Her final score was 250 points. How many questions did she get correct? How many questions did she answer incorrectly?

    6 questions were correct, 4 questions were incorrect

Additional Practice

1. Which pairs of integers both have a product of –42?

      a. (14, –3) and (–6, 7)

      b. (–14, –3) and (6, 7)

      c. (21, 2) and (–1, 42)

      d. (–2, –21) and (–6, 7)

2. James wrote a multiplication expression that has a product of –28. Which multiplication expression did he write?

      a. –2(–14)

      b. 4(–7)

      c. –7(–4)

      d. 1(28)

Additional Practice

1. Which pairs of integers both have a product of –42?

     a. (14, –3) and (–6, 7)

     b. (–14, –3) and (6, 7)

     c. (21, 2) and (–1, 42)

     d. (–2, –21) and (–6, 7)

2. James wrote a multiplication expression that has a product of –28. Which multiplication expression did he write?

     a. –2(–14)

     b. 4(–7)

     c. –7(–4)

     d. 1(28)

3. Which pairs of integers both have a product of 36?

      a. (6, 6) and (–6, 6)

      b. (4, 9) and (–12, –3)

      c. (6, –6) and (4, –9)

      d. (1, –36) and (–36, –1)

4. Susan wrote a multiplication expression that has a product of 48. Which multiplication expression did she write?

      a. –4(12)

      b. –6(–8)

      c. 6(–8)

      d. –3(16)

3. Which pairs of integers both have a product of 36?

   a. (6, 6) and (–6, 6)

   b. (4, 9) and (–12, –3)

   c. (6, –6) and (4, –9)

   d. (1, –36) and (–36, –1)

4. Susan wrote a multiplication expression that has a product of 48. Which multiplication expression did she write?

   a. –4(12)

   b. –6(–8)

   c. 6(–8)

   d. –3(16)

Additional Practice

1. Monique divided a negative integer by a negative integer. Which of the following describes her quotient?

> **a.** Her quotient will be negative because the signs stay the same.
>
> **b.** Her quotient will be negative because it is related to the multiplication generalization that says a negative integer times a negative integer results in a positive integer as a product.
>
> **c.** Her quotient will be positive because it is related to the multiplication generalization that says a positive integer times a negative integer results in a negative integer as a product.
>
> **d.** You cannot tell because you do not know what integers are being divided.

2. The temperature fell the same amount of degrees each hour for 3 hours. The total number of degrees the temperature fell was 18°. How many degrees did the temperature fall each hour?

> **a.** 6°
>
> **b.** −6°
>
> **c.** 108°
>
> **d.** −108°

Additional Practice

1. Monique divided a negative integer by a negative integer. Which of the following describes her quotient?

      a. Her quotient will be negative because the signs stay the same.

      b. Her quotient will be negative because it is related to the multiplication generalization that says a negative integer times a negative integer results in a positive integer as a product.

      c. Her quotient will be positive because it is related to the multiplication generalization that says a positive integer times a negative integer results in a negative integer as a product.

      d. You cannot tell because you do not know what integers are being divided.

2. The temperature fell the same amount of degrees each hour for 3 hours. The total number of degrees the temperature fell was 18°. How many degrees did the temperature fall each hour?

      a. 6°

      b. −6°

      c. 108°

      d. −108°

3. One multiplication equation in a fact family is 4 x (–8) = –32. Which of the following is a division equation in this same fact family?

       a. –8 ÷ (–32) = 4

       b. 4 ÷ (–32) = –8

       c. –32 ÷ 4 = –8

       d. –32 ÷ 8 = –4

4. Which of the following would have a positive integer as its quotient?

       a. –10 ÷ (–2)

       b. 0 ÷ 8

       c. –16 ÷ 8

       d. 8 ÷ (–2)

3. One multiplication equation in a fact family is 4 x (−8) = −32. Which of the following is a division equation in this same fact family?

      a. −8 ÷ (−32) = 4

      b. 4 ÷ (−32) = −8

      c. −32 ÷ 4 = −8

      d. −32 ÷ 8 = −4

4. Which of the following would have a positive integer as its quotient?

      a. −10 ÷ (−2)

      b. 0 ÷ 8

      c. −16 ÷ 8

      d. 8 ÷ (−2)

Additional Practice

1. The height of water in a tank is 14 inches. Each week, the height increases by 2 inches. What is the height of the water after 3 weeks?

       a. 22 inches

       b. 20 inches

       c. 16 inches

       d. 11 inches

2. It was a hot day today. The temperature started at 80° in the morning and increased to 90° at noon. It stayed at 90° for 2 hours and then rose 5° by 6 p.m. What was the temperature at 6 p.m?

       a. 85°

       b. 95°

       c. 82°

       d. 86°

Additional Practice

1. The height of water in a tank is 14 inches. Each week, the height increases by 2 inches. What is the height of the water after 3 weeks?

      a. 22 inches

      b. 20 inches

      c. 16 inches

      d. 11 inches

2. It was a hot day today. The temperature started at 80° in the morning and increased to 90° at noon. It stayed at 90° for 2 hours and then rose 5° by 6 p.m. What was the temperature at 6 p.m?

      a. 85°

      b. 95°

      c. 82°

      d. 86°

3. The audience of a football match with 200 people is increasing by 150 people per hour. How many people will be in the audience after 5 hours?

  a. 350 people

  b. 205 people

  c. 1,000 people

  d. 950 people

4. The price of a stock for a new candy started at $2. The price increased $4 each day for 2 weeks. What was the price of the stock after 4 weeks?

  a. $10

  b. $16

  c. $30

  d. $66

3. The audience of a football match with 200 people is increasing by 150 people per hour. How many people will be in the audience after 5 hours?

        a. 350 people

        b. 205 people

        c. 1,000 people

        d. 950 people

4. The price of a stock for a new candy started at $2. The price increased $4 each day for 2 weeks. What was the price of the stock after 4 weeks?

        a. $10

        b. $16

        c. $30

        d. $66

Additional Practice

Use order of operations to simplify each expression.

1. $-3(4 + (-5)) \div 3 - 2 \times 5$

2. $8 \times 4 \div (-2) + 5(7 - 8)$

3. $-12 \div (-3) - (-1) \times (-4)$

4. $7 - 12 + (-3) - 2 \times 6$

Additional Practice

Use order of operations to simplify each expression.

1. $-3(4 + (-5)) \div 3 - 2 \times 5$

-9

2. $8 \times 4 \div (-2) + 5(7 - 8)$

-21

3. $-12 \div -3 - (-1) \times (-4)$

-8

4. $7 - 12 + (-3) - 2 \times 6$

-20

Additional Practice

Simplify each expression.

1. $(-5) + (3 \times 3) =$ _____

    a. −9

    b. 4

    c. −45

    d. 14

2. $4 \times (-4) + 4 =$ _____

    a. −12

    b. −4

    c. 20

    d. 0

Additional Practice

Simplify each expression.

1. $(-5) + (3 \times 3) =$ _____

    a. −9
    b. 4
    c. −45
    d. 14

2. $4 \times (-4) + 4 =$ _____

    a. −12
    b. −4
    c. 20
    d. 0

3. −8 (−3) − (−4 +1) = _____

    a. 33

    b. 28

    c. 27

    d. 21

4. 5 + (−7) × (9) = _____

    a. 7

    b. −58

    c. 72

    d. −325

3. −8 (−3) − (−4 +1) = _____

    a. 33

    b. 28

    c. 27

    d. 21

4. 5 + (−7) × (9) = _____

    a. 7

    b. −58

    c. 72

    d. −325

Additional Practice

1. Jimmy had $120 in the bank. He spent $25 on a game and $60 on a pair of shoes. He deposited $20 in the bank. How much does he have in the bank now?

      a. $10

      b. $15

      c. $20

      d. $55

2. Peter dove 15 feet under water. He swam up 5 feet and then dove back down 6 feet. How many feet under water is he now?

      a. 15 feet

      b. 6 feet

      c. 16 feet

      d. 26 feet

Additional Practice

1. Jimmy had $120 in the bank. He spent $25 on a game and $60 on a pair of shoes. He deposited $20 in the bank. How much does he have in the bank now?

   a. $10

   b. $15

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2. Peter dove 15 feet under water. He swam up 5 feet and then dove back down 6 feet. How many feet under water is he now?

   a. 15 feet

   b. 6 feet

   c. 16 feet

   d. 26 feet

3. A submarine at the surface of the Atlantic Ocean descends 6 feet every minute. Which equation represents the position of the submarine after 3 hours?

    a. $-6 \times 1 \times 3 = -18$

    b. $(-6 + 1) \times 180 = -900$

    c. $-6 \times 1 \times 180 = -1080$

    d. $3 \times (-6) \times 180 = -3240$

4. Antarctica is very cold in the winter. Its lowest recorded temperature was $-118°$. Finland is also very cold. Its lowest recorded temperature was $-30°$. What is the difference in these 2 temperatures?

    a. 88°

    b. 30°

    c. 148°

    d. 118°

3. A submarine at the surface of the Atlantic Ocean descends 6 feet every minute. Which equation represents the position of the submarine after 3 hours?

    a. $-6 \times 1 \times 3 = -18$

    b. $(-6 + 1) \times 180 = -900$

    c. $-6 \times 1 \times 180 = -1080$

    d. $3 \times (-6) \times 180 = -3240$

4. Antarctica is very cold in the winter. Its lowest recorded temperature was $-118°$. Finland is also very cold. Its lowest recorded temperature was $-30°$. What is the difference in these 2 temperatures?

    a. $88°$

    b. $30°$

    c. $148°$

    d. $118°$

Additional Practice

1. Mario read 10 books in August. He read 2 times as many books as Paul. How many books did Paul read?

      a. 5 books

      b. 2 books

      c. 12 books

      d. 8 books

2. Maggie simplified an expression and got an answer of –15. Which expression could she have simplified?

      a. $5(3 + (-2)) - (-2)(-1)$

      b. $1(3 - 2) + (-2)(-7)$

      c. $-5(3 - 2) + (-4)(-5)$

      d. $-1(3 - 2) + (-2)(-7)$

Additional Practice

1. Mario read 10 books in August. He read 2 times as many books as Paul. How many books did Paul read?

    a. 5 books

    b. 2 books

    c. 12 books

    d. 8 books

2. Maggie simplified an expression and got an answer of –15. Which expression could she have simplified?

    a. $5(3 + (-2)) - (-2)(-1)$

    b. $1(3 - 2) + (-2)(-7)$

    c. $-5(3 - 2) + (-4)(-5)$

    d. $-1(3 - 2) + (-2)(-7)$

3. he temperature in Austin, Texas, at 2 p.m. was 81°. The temperature in New York City, New York, at 2 p.m. was 36°. From 3 p.m. to 8 p.m., the temperature dropped 5° every hour in both Austin and New York City. What is the difference in temperature between the 2 places at 8 p.m.?T

      a. There was a 25° difference between Austin and New York.

      b. There was a 61° difference between Austin and New York.

      c. There was a 45° difference between Austin and New York.

      d. There is not enough information to determine.

4. Coreen had a savings account with a balance of $110. She deposited $50 for her birthday and $30 of her babysitting money. She decided to buy a new cover for her iPad. She withdrew $45. How much is in her savings account?

      a. $75

      b. $145

      c. $105

      d. $45

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      a. There was a 25° difference between Austin and New York.

      b. There was a 61° difference between Austin and New York.

      c. There was a 45° difference between Austin and New York.

      d. There is not enough information to determine.

4. Coreen had a savings account with a balance of $110. She deposited $50 for her birthday and $30 of her babysitting money. She decided to buy a new cover for her iPad. She withdrew $45. How much is in her savings account?

      a. $75

      b. $145

      c. $105

      d. $45

Multiplication and Division

Timed Practice

Name _____

Teacher _____

Period _____

Multiplication and Division Facts: *Information*

Timed Fact Practice

Timed Fact Practice is a component of each module for students to practice developing automaticity with the facts. Research recommends that students spend about 10 minutes a day practicing facts to build automaticity. Three sets of facts are provided: Multiplication, Division, and Mixed Facts.

Content

This module contains 10 multiplication fact practice sheets, 10 division fact practice sheets, and 10 mixed fact practice sheets; answers are also included. The same set of facts must be used for the duration of the module to provide accurate data on students' progress.

Graphing

Have students practice the multiplication facts for 5 days (sheets 1 – 5; there are extra sheets if more practice is needed). Give students 1 minute to complete one sheet of 20 problems. Then, display the answers for the sheet and have students correct their work and put the number correct at the top of the sheet. Have students use the Facts Practice Graph to plot their number correct on each practice sheet. Repeat this procedure for division facts and then for mixed facts. Students can plot their number correct for each operation across 15 days: 5 days for multiplication, 5 days for division, and 5 days for mixed facts.

Motivation and Self-Regulation

By the middle grades, students with chronically low mathematics performance benefit from motivational strategies to keep them interested in learning or relearning mathematical ideas. Self-regulation, such as monitoring one's own performance, can be a powerful strategy for improving motivation for learning. Having students chart their own performance is a motivational strategy that can help to improve their mathematics performance.

Multiplication and Division Facts: *Common Misconceptions and How to Prevent Them*

Misconceptions	Examples for Preventing or Correcting
Some students believe repeated addition is the only definition of multiplication.	Teach students that repeated addition is only 1 way to represent multiplication. Explain to students that if A and B are nonnegative numbers, then A × B is the total of A groups of B.[1]
Some students universally believe multiplication can be used when adding groups.	Teach students that repeated addition of the same number of objects is 1 way of thinking of multiplication. Teach students that multiplication cannot be used when the number of objects in each group is not the same. Present examples and nonexamples (e.g., 5 + 5 + 5, 4 + 5 + 3). Demonstrate and have students differentiate between equal and unequal groups as well as identify when multiplication can and cannot be used.[3]
Some students believe that 4 × 3 and 3 × 4 have different answers.	Illustrate the commutative property of multiplication, using array models to prove the total (product) is the same.[2]
Some students may believe that 30 = 5 × 6 is written incorrectly because the product (30) must follow the equal sign.	Teach students the meaning of the equal sign and explain that the equal sign means "equals" or "is equal to" and that the expressions on each side of the equal sign have the same value.[2]
Some students do not connect the rows with the columns in a multiplication table.	Draw attention to the row as each column is completed. Provide additional instruction on the commutative property of multiplication and the multiplication table's design as needed.
Some students believe that performing a strategy, such as doubling, changes the total number in the array.	Teach students that the doubling strategy changes how the arrays look but not the total number. Use visualizations and manipulatives as needed.
Students may assume that the commutative property also holds for division—for example, assuming that 15 ÷ 3 = 5, so 3 ÷ 15 = 5.	Demonstrate an example, such as the following. Have 15 sheets of paper to share among 3 people. Ask students, "How many sheets of paper does each person get?" (5) Have 3 sheets of paper to share among 15 people. Ask students, "How many sheets of paper does each person get?" ($\frac{1}{5}$) For each demonstration, write the equation on the board. Draw attention to the quotients, which are different.

Some students may confuse fact families with the set of a number and all its factors (12: 1, 2, 3, 4, 6, 12).	Teach students that a family of facts consists of 3 numbers, 2 of which are the factors that when multiplied equal the product.
Some students may believe a family of facts consists of any 2 factors of a product and the product.	Emphasize that the equation constructed with these numbers must be true. For example, if students offer 5, 10, and 20, ask what the equation is ($5 \times 10 = 20$) and whether it is true.
Some students may need a more concrete model showing how multiplying by powers of 10 works.	If so, use base-ten blocks to show 10, 100, and 1,000, as well as 20, 200, and 2,000. Show students how, in each place, the number in the second group is 2 times larger than the number in the first group: 2 is 2 times larger than 1, 20 is 2 times larger than 10, etc. The factor is always 2, and the number of 0s represents the other factor: 10, 100, or 1,000.

1. Beckman, S. (2011). *Mathematics for elementary teachers with activity manual* (3rd ed.). Boston, MA: Addison-Wesley.

2. National Council of Teachers of Mathematics. (2009). *Focus in grade 3: Teaching with curriculum focal points.* Reston, VA: Author.

3. Scott Foresman & Addison Wesley. (2009). *enVision math Texas: Grade 5.* Glenview: IL: Pearson Education.

Name: _____

Multiplication Timed Practice Sheet 1

Number Correct: _____

1
$\begin{array}{r} 8 \\ \times\ 2 \\ \hline \end{array}$

2
$\begin{array}{r} 1 \\ \times\ 7 \\ \hline \end{array}$

3
$\begin{array}{r} 5 \\ \times\ 8 \\ \hline \end{array}$

4
$\begin{array}{r} 6 \\ \times\ 3 \\ \hline \end{array}$

5
$\begin{array}{r} 7 \\ \times\ 4 \\ \hline \end{array}$

6
$\begin{array}{r} 6 \\ \times\ 6 \\ \hline \end{array}$

7
$\begin{array}{r} 2 \\ \times\ 12 \\ \hline \end{array}$

8
$\begin{array}{r} 4 \\ \times\ 5 \\ \hline \end{array}$

9
$\begin{array}{r} 7 \\ \times\ 6 \\ \hline \end{array}$

10
$\begin{array}{r} 3 \\ \times\ 9 \\ \hline \end{array}$

11
$\begin{array}{r} 11 \\ \times\ \ 5 \\ \hline \end{array}$

12
$\begin{array}{r} 3 \\ \times\ 3 \\ \hline \end{array}$

13
$\begin{array}{r} 8 \\ \times\ 9 \\ \hline \end{array}$

14
$\begin{array}{r} 2 \\ \times\ 4 \\ \hline \end{array}$

15
$\begin{array}{r} 6 \\ \times\ 9 \\ \hline \end{array}$

16
$\begin{array}{r} 4 \\ \times\ 12 \\ \hline \end{array}$

17
$\begin{array}{r} 9 \\ \times\ 6 \\ \hline \end{array}$

18
$\begin{array}{r} 10 \\ \times\ \ 8 \\ \hline \end{array}$

19
$\begin{array}{r} 2 \\ \times\ 9 \\ \hline \end{array}$

20
$\begin{array}{r} 8 \\ \times\ 3 \\ \hline \end{array}$

Multiplication Timed Practice Sheet 1

1
```
    8
  × 2
   16
```

2
```
    1
  × 7
    7
```

3
```
    5
  × 8
   40
```

4
```
    6
  × 3
   18
```

5
```
    7
  × 4
   28
```

6
```
    6
  × 6
   36
```

7
```
     2
  × 12
   24
```

8
```
    4
  × 5
   20
```

9
```
    7
  × 6
   42
```

10
```
    3
  × 9
   27
```

11
```
   11
  ×  5
   55
```

12
```
    3
  × 3
    9
```

13
```
    8
  × 9
   72
```

14
```
    2
  × 4
    8
```

15
```
    6
  × 9
   54
```

16
```
     4
  × 12
   48
```

17
```
    9
  × 6
   54
```

18
```
    10
  ×  8
   80
```

19
```
    2
  × 9
   18
```

20
```
    8
  × 3
   24
```

Name: _____

Multiplication Timed Practice Sheet 2

Number Correct: _____

1 $\begin{array}{r} 7 \\ \times\, 2 \\ \hline \end{array}$	**2** $\begin{array}{r} 5 \\ \times\, 5 \\ \hline \end{array}$	**3** $\begin{array}{r} 9 \\ \times\, 1 \\ \hline \end{array}$	**4** $\begin{array}{r} 7 \\ \times\, 11 \\ \hline \end{array}$
5 $\begin{array}{r} 5 \\ \times\, 6 \\ \hline \end{array}$	**6** $\begin{array}{r} 10 \\ \times\, 3 \\ \hline \end{array}$	**7** $\begin{array}{r} 7 \\ \times\, 5 \\ \hline \end{array}$	**8** $\begin{array}{r} 3 \\ \times\, 4 \\ \hline \end{array}$
9 $\begin{array}{r} 4 \\ \times\, 9 \\ \hline \end{array}$	**10** $\begin{array}{r} 4 \\ \times\, 7 \\ \hline \end{array}$	**11** $\begin{array}{r} 12 \\ \times\, 6 \\ \hline \end{array}$	**12** $\begin{array}{r} 7 \\ \times\, 8 \\ \hline \end{array}$
13 $\begin{array}{r} 7 \\ \times\, 10 \\ \hline \end{array}$	**14** $\begin{array}{r} 8 \\ \times\, 6 \\ \hline \end{array}$	**15** $\begin{array}{r} 6 \\ \times\, 7 \\ \hline \end{array}$	**16** $\begin{array}{r} 5 \\ \times\, 3 \\ \hline \end{array}$
17 $\begin{array}{r} 9 \\ \times\, 8 \\ \hline \end{array}$	**18** $\begin{array}{r} 6 \\ \times\, 4 \\ \hline \end{array}$	**19** $\begin{array}{r} 9 \\ \times\, 4 \\ \hline \end{array}$	**20** $\begin{array}{r} 8 \\ \times\, 4 \\ \hline \end{array}$

Multiplication Timed Practice Sheet 2

1
  7
× 2
14

2
  5
× 5
25

3
  9
× 1
9

4
  7
× 11
77

5
  5
× 6
30

6
  10
× 3
30

7
  7
× 5
35

8
  3
× 4
12

9
  4
× 9
36

10
  4
× 7
28

11
  12
× 6
72

12
  7
× 8
56

13
  7
× 10
70

14
  8
× 6
48

15
  6
× 7
42

16
  5
× 3
15

17
  9
× 8
72

18
  6
× 4
24

19
  9
× 4
36

20
  8
× 4
32

Name: _____

Multiplication Timed Practice Sheet 3

Number Correct: _____

1　　1
　　× 12

2　　4
　　× 3

3　　5
　　× 2

4　　10
　　×　7

5　　10
　　×　2

6　　4
　　× 8

7　　3
　　× 7

8　　12
　　×　7

9　　11
　　×　6

10　　3
　　× 12

11　　4
　　× 6

12　　5
　　× 9

13　　8
　　× 7

14　　7
　　× 3

15　　8
　　× 8

16　　5
　　× 10

17　　5
　　× 4

18　　9
　　× 2

19　　3
　　× 11

20　　9
　　× 7

Multiplication Timed Practice Sheet 3

1
$$\begin{array}{r} 1 \\ \times\ 12 \\ \hline 12 \end{array}$$

2
$$\begin{array}{r} 4 \\ \times\ 3 \\ \hline 12 \end{array}$$

3
$$\begin{array}{r} 5 \\ \times\ 2 \\ \hline 10 \end{array}$$

4
$$\begin{array}{r} 10 \\ \times\ 7 \\ \hline 70 \end{array}$$

5
$$\begin{array}{r} 10 \\ \times\ 2 \\ \hline 20 \end{array}$$

6
$$\begin{array}{r} 4 \\ \times\ 8 \\ \hline 32 \end{array}$$

7
$$\begin{array}{r} 3 \\ \times\ 7 \\ \hline 21 \end{array}$$

8
$$\begin{array}{r} 12 \\ \times\ 7 \\ \hline 84 \end{array}$$

9
$$\begin{array}{r} 11 \\ \times\ 6 \\ \hline 66 \end{array}$$

10
$$\begin{array}{r} 3 \\ \times\ 12 \\ \hline 36 \end{array}$$

11
$$\begin{array}{r} 4 \\ \times\ 6 \\ \hline 24 \end{array}$$

12
$$\begin{array}{r} 5 \\ \times\ 9 \\ \hline 45 \end{array}$$

13
$$\begin{array}{r} 8 \\ \times\ 7 \\ \hline 56 \end{array}$$

14
$$\begin{array}{r} 7 \\ \times\ 3 \\ \hline 21 \end{array}$$

15
$$\begin{array}{r} 8 \\ \times\ 8 \\ \hline 64 \end{array}$$

16
$$\begin{array}{r} 5 \\ \times\ 10 \\ \hline 50 \end{array}$$

17
$$\begin{array}{r} 5 \\ \times\ 4 \\ \hline 20 \end{array}$$

18
$$\begin{array}{r} 9 \\ \times\ 2 \\ \hline 18 \end{array}$$

19
$$\begin{array}{r} 3 \\ \times\ 11 \\ \hline 33 \end{array}$$

20
$$\begin{array}{r} 9 \\ \times\ 7 \\ \hline 63 \end{array}$$

Name: _____

Multiplication Timed Practice Sheet 4

Number Correct: _____

1 2
× 8

2 3
× 6

3 8
× 5

4 2
× 7

5 11
× 9

6 4
× 4

7 9
× 4

8 3
× 10

9 5
× 9

10 5
× 12

11 7
× 3

12 1
× 5

13 3
× 2

14 6
× 8

15 9
× 11

16 4
× 5

17 12
× 5

18 4
× 2

19 7
× 7

20 10
× 10

Multiplication Timed Practice Sheet 4

1
$$\begin{array}{r} 2 \\ \times\ 8 \\ \hline 16 \end{array}$$

2
$$\begin{array}{r} 3 \\ \times\ 6 \\ \hline 18 \end{array}$$

3
$$\begin{array}{r} 8 \\ \times\ 5 \\ \hline 40 \end{array}$$

4
$$\begin{array}{r} 2 \\ \times\ 7 \\ \hline 14 \end{array}$$

5
$$\begin{array}{r} 11 \\ \times\ \ 9 \\ \hline 99 \end{array}$$

6
$$\begin{array}{r} 4 \\ \times\ 4 \\ \hline 16 \end{array}$$

7
$$\begin{array}{r} 9 \\ \times\ 4 \\ \hline 36 \end{array}$$

8
$$\begin{array}{r} 3 \\ \times\ 10 \\ \hline 30 \end{array}$$

9
$$\begin{array}{r} 5 \\ \times\ 9 \\ \hline 45 \end{array}$$

10
$$\begin{array}{r} 5 \\ \times\ 12 \\ \hline 60 \end{array}$$

11
$$\begin{array}{r} 7 \\ \times\ 3 \\ \hline 21 \end{array}$$

12
$$\begin{array}{r} 1 \\ \times\ 5 \\ \hline 5 \end{array}$$

13
$$\begin{array}{r} 3 \\ \times\ 2 \\ \hline 6 \end{array}$$

14
$$\begin{array}{r} 6 \\ \times\ 8 \\ \hline 48 \end{array}$$

15
$$\begin{array}{r} 9 \\ \times\ 11 \\ \hline 99 \end{array}$$

16
$$\begin{array}{r} 4 \\ \times\ 5 \\ \hline 20 \end{array}$$

17
$$\begin{array}{r} 12 \\ \times\ \ 5 \\ \hline 60 \end{array}$$

18
$$\begin{array}{r} 4 \\ \times\ 2 \\ \hline 8 \end{array}$$

19
$$\begin{array}{r} 7 \\ \times\ 7 \\ \hline 49 \end{array}$$

20
$$\begin{array}{r} 10 \\ \times\ 10 \\ \hline 100 \end{array}$$

Name: _____

Multiplication Timed Practice Sheet 5

Number Correct: _____

1 4
    × 6

2 9
    × 3

3 5
    × 11

4 10
    × 5

5 5
    × 7

6 2
    × 10

7 3
    × 1

8 12
    × 5

9 8
    × 6

10 6
    × 12

11 6
    × 2

12 7
    × 7

13 4
    × 7

14 5
    × 3

15 3
    × 8

16 12
    × 2

17 9
    × 3

18 11
    × 4

19 7
    × 4

20 9
    × 10

Multiplication Timed Practice Sheet 5

1
$$\begin{array}{r} 4 \\ \times\ 6 \\ \hline 24 \end{array}$$

2
$$\begin{array}{r} 9 \\ \times\ 3 \\ \hline 27 \end{array}$$

3
$$\begin{array}{r} 5 \\ \times\ 11 \\ \hline 55 \end{array}$$

4
$$\begin{array}{r} 10 \\ \times\ 5 \\ \hline 50 \end{array}$$

5
$$\begin{array}{r} 5 \\ \times\ 7 \\ \hline 35 \end{array}$$

6
$$\begin{array}{r} 2 \\ \times\ 10 \\ \hline 20 \end{array}$$

7
$$\begin{array}{r} 3 \\ \times\ 1 \\ \hline 3 \end{array}$$

8
$$\begin{array}{r} 12 \\ \times\ 5 \\ \hline 60 \end{array}$$

9
$$\begin{array}{r} 8 \\ \times\ 6 \\ \hline 48 \end{array}$$

10
$$\begin{array}{r} 6 \\ \times\ 12 \\ \hline 72 \end{array}$$

11
$$\begin{array}{r} 6 \\ \times\ 2 \\ \hline 12 \end{array}$$

12
$$\begin{array}{r} 7 \\ \times\ 7 \\ \hline 49 \end{array}$$

13
$$\begin{array}{r} 4 \\ \times\ 7 \\ \hline 28 \end{array}$$

14
$$\begin{array}{r} 5 \\ \times\ 3 \\ \hline 15 \end{array}$$

15
$$\begin{array}{r} 3 \\ \times\ 8 \\ \hline 24 \end{array}$$

16
$$\begin{array}{r} 12 \\ \times\ 2 \\ \hline 24 \end{array}$$

17
$$\begin{array}{r} 9 \\ \times\ 3 \\ \hline 27 \end{array}$$

18
$$\begin{array}{r} 11 \\ \times\ 4 \\ \hline 44 \end{array}$$

19
$$\begin{array}{r} 7 \\ \times\ 4 \\ \hline 28 \end{array}$$

20
$$\begin{array}{r} 9 \\ \times\ 10 \\ \hline 90 \end{array}$$

Name: _____

Multiplication Timed Practice Sheet 6

Number Correct: _____

1   4
× 3

2   3
× 6

3   7
× 5

4   6
× 4

5   8
× 10

6   2
× 2

7   11
×   2

8   5
× 5

9   3
× 5

10   4
× 8

11   7
× 9

12   8
× 12

13   2
× 10

14   1
× 8

15   6
× 11

16   11
× 12

17   12
×   8

18   10
×   6

19   2
× 5

20   9
× 7

Multiplication Timed Practice Sheet 6

1
$$\begin{array}{r} 4 \\ \times\ 3 \\ \hline 12 \end{array}$$

2
$$\begin{array}{r} 3 \\ \times\ 6 \\ \hline 18 \end{array}$$

3
$$\begin{array}{r} 7 \\ \times\ 5 \\ \hline 35 \end{array}$$

4
$$\begin{array}{r} 6 \\ \times\ 4 \\ \hline 24 \end{array}$$

5
$$\begin{array}{r} 8 \\ \times\ 10 \\ \hline 80 \end{array}$$

6
$$\begin{array}{r} 2 \\ \times\ 2 \\ \hline 4 \end{array}$$

7
$$\begin{array}{r} 11 \\ \times\ 2 \\ \hline 22 \end{array}$$

8
$$\begin{array}{r} 5 \\ \times\ 5 \\ \hline 25 \end{array}$$

9
$$\begin{array}{r} 3 \\ \times\ 5 \\ \hline 15 \end{array}$$

10
$$\begin{array}{r} 4 \\ \times\ 8 \\ \hline 32 \end{array}$$

11
$$\begin{array}{r} 7 \\ \times\ 9 \\ \hline 63 \end{array}$$

12
$$\begin{array}{r} 8 \\ \times\ 12 \\ \hline 96 \end{array}$$

13
$$\begin{array}{r} 2 \\ \times\ 10 \\ \hline 20 \end{array}$$

14
$$\begin{array}{r} 1 \\ \times\ 8 \\ \hline 8 \end{array}$$

15
$$\begin{array}{r} 6 \\ \times\ 11 \\ \hline 66 \end{array}$$

16
$$\begin{array}{r} 11 \\ \times\ 12 \\ \hline 132 \end{array}$$

17
$$\begin{array}{r} 12 \\ \times\ 8 \\ \hline 96 \end{array}$$

18
$$\begin{array}{r} 10 \\ \times\ 6 \\ \hline 60 \end{array}$$

19
$$\begin{array}{r} 2 \\ \times\ 5 \\ \hline 10 \end{array}$$

20
$$\begin{array}{r} 9 \\ \times\ 7 \\ \hline 63 \end{array}$$

Name: _____

Multiplication Timed Practice Sheet 7

Number Correct: _____

1 5 × 8	**2** 4 × 4	**3** 5 × 7	**4** 9 × 2
5 8 × 11	**6** 3 × 7	**7** 2 × 6	**8** 3 × 5
9 3 × 4	**10** 9 × 12	**11** 6 × 10	**12** 8 × 3
13 12 × 11	**14** 8 × 8	**15** 5 × 4	**16** 1 × 11
17 6 × 7	**18** 7 × 6	**19** 10 × 9	**20** 6 × 5

Multiplication Timed Practice Sheet 7

1
$$\begin{array}{r} 5 \\ \times\ 8 \\ \hline 40 \end{array}$$

2
$$\begin{array}{r} 4 \\ \times\ 4 \\ \hline 16 \end{array}$$

3
$$\begin{array}{r} 5 \\ \times\ 7 \\ \hline 35 \end{array}$$

4
$$\begin{array}{r} 9 \\ \times\ 2 \\ \hline 18 \end{array}$$

5
$$\begin{array}{r} 8 \\ \times\ 11 \\ \hline 88 \end{array}$$

6
$$\begin{array}{r} 3 \\ \times\ 7 \\ \hline 21 \end{array}$$

7
$$\begin{array}{r} 2 \\ \times\ 6 \\ \hline 12 \end{array}$$

8
$$\begin{array}{r} 3 \\ \times\ 5 \\ \hline 15 \end{array}$$

9
$$\begin{array}{r} 3 \\ \times\ 4 \\ \hline 12 \end{array}$$

10
$$\begin{array}{r} 9 \\ \times\ 12 \\ \hline 108 \end{array}$$

11
$$\begin{array}{r} 6 \\ \times\ 10 \\ \hline 60 \end{array}$$

12
$$\begin{array}{r} 8 \\ \times\ 3 \\ \hline 24 \end{array}$$

13
$$\begin{array}{r} 12 \\ \times\ 11 \\ \hline 132 \end{array}$$

14
$$\begin{array}{r} 8 \\ \times\ 8 \\ \hline 64 \end{array}$$

15
$$\begin{array}{r} 5 \\ \times\ 4 \\ \hline 20 \end{array}$$

16
$$\begin{array}{r} 1 \\ \times\ 11 \\ \hline 11 \end{array}$$

17
$$\begin{array}{r} 6 \\ \times\ 7 \\ \hline 42 \end{array}$$

18
$$\begin{array}{r} 7 \\ \times\ 6 \\ \hline 42 \end{array}$$

19
$$\begin{array}{r} 10 \\ \times\ 9 \\ \hline 90 \end{array}$$

20
$$\begin{array}{r} 6 \\ \times\ 5 \\ \hline 30 \end{array}$$

Name: _____

Multiplication Timed Practice Sheet 8

Number Correct: _____

1 3 × 10	**2** 9 × 6	**3** 11 × 2	**4** 6 × 10

1   3   **2**   9   **3**   11   **4**   6
    × 10   × 6   × 2   × 10

5   7   **6**   8   **7**   5   **8**   4
    × 9   × 7   × 2   × 11

9   4   **10**   6   **11**   6   **12**   8
    × 1   × 9   × 5   × 5

13   10   **14**   11   **15**   2   **16**   9
    × 3   × 7   × 12   × 9

17   6   **18**   2   **19**   7   **20**   4
    × 8   × 3   × 12   × 2

Multiplication Timed Practice Sheet 8

1 $\begin{array}{r} 3 \\ \times\ 10 \\ \hline 30 \end{array}$

2 $\begin{array}{r} 9 \\ \times\ 6 \\ \hline 54 \end{array}$

3 $\begin{array}{r} 11 \\ \times\ \ 2 \\ \hline 22 \end{array}$

4 $\begin{array}{r} 6 \\ \times\ 10 \\ \hline 60 \end{array}$

5 $\begin{array}{r} 7 \\ \times\ 9 \\ \hline 63 \end{array}$

6 $\begin{array}{r} 8 \\ \times\ 7 \\ \hline 56 \end{array}$

7 $\begin{array}{r} 5 \\ \times\ 2 \\ \hline 10 \end{array}$

8 $\begin{array}{r} 4 \\ \times\ 11 \\ \hline 44 \end{array}$

9 $\begin{array}{r} 4 \\ \times\ 1 \\ \hline 4 \end{array}$

10 $\begin{array}{r} 6 \\ \times\ 9 \\ \hline 54 \end{array}$

11 $\begin{array}{r} 6 \\ \times\ 5 \\ \hline 30 \end{array}$

12 $\begin{array}{r} 8 \\ \times\ 5 \\ \hline 40 \end{array}$

13 $\begin{array}{r} 10 \\ \times\ \ 3 \\ \hline 30 \end{array}$

14 $\begin{array}{r} 11 \\ \times\ \ 7 \\ \hline 77 \end{array}$

15 $\begin{array}{r} 2 \\ \times\ 12 \\ \hline 24 \end{array}$

16 $\begin{array}{r} 9 \\ \times\ 9 \\ \hline 81 \end{array}$

17 $\begin{array}{r} 6 \\ \times\ 8 \\ \hline 48 \end{array}$

18 $\begin{array}{r} 2 \\ \times\ 3 \\ \hline 6 \end{array}$

19 $\begin{array}{r} 7 \\ \times\ 12 \\ \hline 84 \end{array}$

20 $\begin{array}{r} 4 \\ \times\ 2 \\ \hline 8 \end{array}$

Name: _____

Multiplication Timed Practice Sheet 9

Number Correct: _____

1
$$\begin{array}{r} 6 \\ \times\ 2 \\ \hline \end{array}$$

2
$$\begin{array}{r} 9 \\ \times\ 5 \\ \hline \end{array}$$

3
$$\begin{array}{r} 11 \\ \times\ \ 8 \\ \hline \end{array}$$

4
$$\begin{array}{r} 2 \\ \times\ 6 \\ \hline \end{array}$$

5
$$\begin{array}{r} 5 \\ \times\ 6 \\ \hline \end{array}$$

6
$$\begin{array}{r} 8 \\ \times\ 9 \\ \hline \end{array}$$

7
$$\begin{array}{r} 9 \\ \times\ 8 \\ \hline \end{array}$$

8
$$\begin{array}{r} 10 \\ \times\ \ 4 \\ \hline \end{array}$$

9
$$\begin{array}{r} 12 \\ \times\ \ 3 \\ \hline \end{array}$$

10
$$\begin{array}{r} 11 \\ \times\ 11 \\ \hline \end{array}$$

11
$$\begin{array}{r} 4 \\ \times\ 10 \\ \hline \end{array}$$

12
$$\begin{array}{r} 7 \\ \times\ 8 \\ \hline \end{array}$$

13
$$\begin{array}{r} 3 \\ \times\ 9 \\ \hline \end{array}$$

14
$$\begin{array}{r} 4 \\ \times\ 9 \\ \hline \end{array}$$

15
$$\begin{array}{r} 8 \\ \times\ 2 \\ \hline \end{array}$$

16
$$\begin{array}{r} 12 \\ \times\ \ 9 \\ \hline \end{array}$$

17
$$\begin{array}{r} 11 \\ \times\ \ 3 \\ \hline \end{array}$$

18
$$\begin{array}{r} 10 \\ \times\ \ 7 \\ \hline \end{array}$$

19
$$\begin{array}{r} 1 \\ \times\ 6 \\ \hline \end{array}$$

20
$$\begin{array}{r} 2 \\ \times\ 8 \\ \hline \end{array}$$

Multiplication Timed Practice Sheet 9

| **1** | 6 × 2 = 12 | **2** | 9 × 5 = 45 | **3** | 11 × 8 = 88 | **4** | 2 × 6 = 12 |

1
```
    6
×   2
   12
```

2
```
    9
×   5
   45
```

3
```
   11
×   8
   88
```

4
```
    2
×   6
   12
```

5
```
    5
×   6
   30
```

6
```
    8
×   9
   72
```

7
```
    9
×   8
   72
```

8
```
   10
×   4
   40
```

9
```
   12
×   3
   36
```

10
```
   11
×  11
  121
```

11
```
    4
×  10
   40
```

12
```
    7
×   8
   56
```

13
```
    3
×   9
   27
```

14
```
    4
×   9
   36
```

15
```
    8
×   2
   16
```

16
```
   12
×   9
  108
```

17
```
   11
×   3
   33
```

18
```
   10
×   7
   70
```

19
```
    1
×   6
    6
```

20
```
    2
×   8
   16
```

Name: _____

Multiplication Timed Practice Sheet 10

Number Correct: _____

1   3
   × 8

2   6
   × 3

3   3
   × 3

4   10
   × 1

5   2
   × 5

6   2
   × 11

7   9
   × 9

8   9
   × 5

9   2
   × 9

10   6
   × 6

11   2
   × 3

12   12
   × 3

13   2
   × 7

14   12
   × 10

15   8
   × 4

16   11
   × 8

17   11
   × 4

18   5
   × 5

19   10
   × 11

20   7
   × 2

Multiplication Timed Practice Sheet 10

| 1 | 3
× 8
24 | 2 | 6
× 3
18 | 3 | 3
× 3
9 | 4 | 10
× 1
10 |

1
  3
× 8
24

2
  6
× 3
18

3
  3
× 3
9

4
  10
× 1
10

5
  2
× 5
10

6
  2
× 11
22

7
  9
× 9
81

8
  9
× 5
45

9
  2
× 9
18

10
  6
× 6
36

11
  2
× 3
6

12
  12
× 3
36

13
  2
× 7
14

14
  12
× 10
120

15
  8
× 4
32

16
  11
× 8
88

17
  11
× 4
44

18
  5
× 5
25

19
  10
× 11
110

20
  7
× 2
14

Name: _____

Division Timed Practice Sheet 1

Number Correct: _____

1	7)‾21‾	**2**	5)‾10‾	**3**	2)‾14‾	**4**	9)‾27‾

| **5** | 6)‾24‾ | **6** | 10)‾70‾ | **7** | 8)‾32‾ | **8** | 6)‾36‾ |

| **9** | 3)‾9‾ | **10** | 5)‾35‾ | **11** | 1)‾8‾ | **12** | 12)‾24‾ |

| **13** | 2)‾20‾ | **14** | 8)‾40‾ | **15** | 3)‾15‾ | **16** | 4)‾32‾ |

| **17** | 4)‾28‾ | **18** | 7)‾42‾ | **19** | 9)‾63‾ | **20** | 6)‾66‾ |

Division Timed Practice Sheet 1

1 $7\overline{)21}$ = 3 **2** $5\overline{)10}$ = 2 **3** $2\overline{)14}$ = 7 **4** $9\overline{)27}$ = 3

5 $6\overline{)24}$ = 4 **6** $10\overline{)70}$ = 7 **7** $8\overline{)32}$ = 4 **8** $6\overline{)36}$ = 6

9 $3\overline{)9}$ = 3 **10** $5\overline{)35}$ = 7 **11** $1\overline{)8}$ = 8 **12** $12\overline{)24}$ = 2

13 $2\overline{)20}$ = 10 **14** $8\overline{)40}$ = 5 **15** $3\overline{)15}$ = 5 **16** $4\overline{)32}$ = 8

17 $4\overline{)28}$ = 7 **18** $7\overline{)42}$ = 6 **19** $9\overline{)63}$ = 7 **20** $6\overline{)66}$ = 11

Name: _____

Division Timed Practice Sheet 2

Number Correct: _____

1 2$\overline{)10}$ **2** 3$\overline{)27}$ **3** 3$\overline{)21}$ **4** 7$\overline{)14}$

5 6$\overline{)30}$ **6** 1$\overline{)6}$ **7** 6$\overline{)54}$ **8** 12$\overline{)60}$

9 3$\overline{)36}$ **10** 4$\overline{)24}$ **11** 5$\overline{)25}$ **12** 10$\overline{)80}$

13 8$\overline{)16}$ **14** 11$\overline{)14}$ **15** 8$\overline{)24}$ **16** 5$\overline{)30}$

17 9$\overline{)54}$ **18** 6$\overline{)60}$ **19** 8$\overline{)72}$ **20** 7$\overline{)56}$

Division Timed Practice Sheet 2

1 $\overset{5}{2\overline{)10}}$ **2** $\overset{9}{3\overline{)27}}$ **3** $\overset{7}{3\overline{)21}}$ **4** $\overset{2}{7\overline{)14}}$

5 $\overset{5}{6\overline{)30}}$ **6** $\overset{6}{1\overline{)6}}$ **7** $\overset{9}{6\overline{)54}}$ **8** $\overset{5}{12\overline{)60}}$

9 $\overset{12}{3\overline{)36}}$ **10** $\overset{6}{4\overline{)24}}$ **11** $\overset{5}{5\overline{)25}}$ **12** $\overset{8}{10\overline{)80}}$

13 $\overset{2}{8\overline{)16}}$ **14** $\overset{4}{11\overline{)14}}$ **15** $\overset{3}{8\overline{)24}}$ **16** $\overset{6}{5\overline{)30}}$

17 $\overset{6}{9\overline{)54}}$ **18** $\overset{10}{6\overline{)60}}$ **19** $\overset{9}{8\overline{)72}}$ **20** $\overset{8}{7\overline{)56}}$

Name: _____

Division Timed Practice Sheet 3

Number Correct: _____

1 $11\overline{)66}$ **2** $2\overline{)18}$ **3** $6\overline{)42}$ **4** $7\overline{)63}$

5 $5\overline{)45}$ **6** $3\overline{)24}$ **7** $9\overline{)36}$ **8** $1\overline{)12}$

9 $4\overline{)20}$ **10** $10\overline{)30}$ **11** $9\overline{)36}$ **12** $9\overline{)90}$

13 $8\overline{)80}$ **14** $3\overline{)18}$ **15** $8\overline{)24}$ **16** $4\overline{)16}$

17 $7\overline{)35}$ **18** $6\overline{)18}$ **19** $9\overline{)99}$ **20** $12\overline{)120}$

Division Timed Practice Sheet 3

1 $11\overline{)66}$ = 6

2 $2\overline{)18}$ = 9

3 $6\overline{)42}$ = 7

4 $7\overline{)63}$ = 9

5 $5\overline{)45}$ = 9

6 $3\overline{)24}$ = 8

7 $9\overline{)36}$ = 4

8 $1\overline{)12}$ = 12

9 $4\overline{)20}$ = 5

10 $10\overline{)30}$ = 3

11 $9\overline{)36}$ = 8

12 $9\overline{)90}$ = 10

13 $8\overline{)80}$ = 10

14 $3\overline{)18}$ = 6

15 $8\overline{)24}$ = 3

16 $4\overline{)16}$ = 4

17 $7\overline{)35}$ = 5

18 $6\overline{)18}$ = 3

19 $9\overline{)99}$ = 11

20 $12\overline{)120}$ = 10

Name: _____

Division Timed Practice Sheet 4

Number Correct: _____

1 $5\overline{)15}$	**2** $11\overline{)55}$	**3** $4\overline{)12}$	**4** $9\overline{)45}$
5 $7\overline{)28}$	**6** $4\overline{)36}$	**7** $1\overline{)7}$	**8** $10\overline{)60}$
9 $2\overline{)16}$	**10** $5\overline{)40}$	**11** $8\overline{)56}$	**12** $2\overline{)24}$
13 $9\overline{)18}$	**14** $11\overline{)88}$	**15** $12\overline{)48}$	**16** $7\overline{)49}$
17 $7\overline{)56}$	**18** $3\overline{)6}$	**19** $4\overline{)40}$	**20** $6\overline{)30}$

Division Timed Practice Sheet 4

1 $5\overline{)15}$ — 3

2 $11\overline{)55}$ — 5

3 $4\overline{)12}$ — 3

4 $9\overline{)45}$ — 5

5 $7\overline{)28}$ — 4

6 $4\overline{)36}$ — 9

7 $1\overline{)7}$ — 7

8 $10\overline{)60}$ — 6

9 $2\overline{)16}$ — 8

10 $5\overline{)40}$ — 8

11 $8\overline{)56}$ — 7

12 $2\overline{)24}$ — 12

13 $9\overline{)18}$ — 2

14 $11\overline{)88}$ — 8

15 $12\overline{)48}$ — 4

16 $7\overline{)49}$ — 7

17 $7\overline{)56}$ — 8

18 $3\overline{)6}$ — 2

19 $4\overline{)40}$ — 10

20 $6\overline{)30}$ — 5

Name: _____

Division Timed Practice Sheet 5

Number Correct: _____

1 $3\overline{)21}$ **2** $6\overline{)12}$ **3** $3\overline{)36}$ **4** $3\overline{)15}$

5 $9\overline{)36}$ **6** $8\overline{)48}$ **7** $3\overline{)12}$ **8** $10\overline{)90}$

9 $4\overline{)24}$ **10** $5\overline{)60}$ **11** $11\overline{)33}$ **12** $8\overline{)64}$

13 $1\overline{)4}$ **14** $4\overline{)28}$ **15** $6\overline{)48}$ **16** $5\overline{)55}$

17 $12\overline{)24}$ **18** $7\overline{)70}$ **19** $9\overline{)27}$ **20** $12\overline{)96}$

Division Timed Practice Sheet 5

1 $3\overline{)21}$ → 7

2 $6\overline{)12}$ → 2

3 $3\overline{)36}$ → 6

4 $3\overline{)15}$ → 5

5 $9\overline{)36}$ → 4

6 $8\overline{)48}$ → 6

7 $3\overline{)12}$ → 4

8 $10\overline{)90}$ → 9

9 $4\overline{)24}$ → 6

10 $5\overline{)60}$ → 12

11 $11\overline{)33}$ → 3

12 $8\overline{)64}$ → 8

13 $1\overline{)4}$ → 4

14 $4\overline{)28}$ → 7

15 $6\overline{)48}$ → 8

16 $5\overline{)55}$ → 11

17 $12\overline{)24}$ → 2

18 $7\overline{)70}$ → 10

19 $9\overline{)27}$ → 3

20 $12\overline{)96}$ → 8

Name: _____

Division Timed Practice Sheet 6

Number Correct: _____

1 $2\overline{)20}$ **2** $8\overline{)16}$ **3** $5\overline{)20}$ **4** $1\overline{)3}$

5 $5\overline{)35}$ **6** $4\overline{)44}$ **7** $6\overline{)48}$ **8** $11\overline{)110}$

9 $3\overline{)18}$ **10** $2\overline{)4}$ **11** $3\overline{)27}$ **12** $6\overline{)72}$

13 $9\overline{)81}$ **14** $3\overline{)24}$ **15** $10\overline{)20}$ **16** $4\overline{)48}$

17 $6\overline{)30}$ **18** $10\overline{)110}$ **19** $9\overline{)54}$ **20** $7\overline{)28}$

Division Timed Practice Sheet 6

1 $\overset{10}{2\overline{)20}}$ **2** $\overset{2}{8\overline{)16}}$ **3** $\overset{4}{5\overline{)20}}$ **4** $\overset{3}{1\overline{)3}}$

5 $\overset{7}{5\overline{)35}}$ **6** $\overset{11}{4\overline{)44}}$ **7** $\overset{8}{6\overline{)48}}$ **8** $\overset{10}{11\overline{)110}}$

9 $\overset{6}{3\overline{)18}}$ **10** $\overset{2}{2\overline{)4}}$ **11** $\overset{9}{3\overline{)27}}$ **12** $\overset{12}{6\overline{)72}}$

13 $\overset{9}{9\overline{)81}}$ **14** $\overset{8}{3\overline{)24}}$ **15** $\overset{2}{10\overline{)20}}$ **16** $\overset{12}{4\overline{)48}}$

17 $\overset{5}{6\overline{)30}}$ **18** $\overset{11}{10\overline{)110}}$ **19** $\overset{6}{9\overline{)54}}$ **20** $\overset{4}{7\overline{)28}}$

Name: _____

Division Timed Practice Sheet 7

Number Correct: _____

1 $2\overline{)10}$ **2** $8\overline{)40}$ **3** $3\overline{)9}$ **4** $11\overline{)55}$

5 $8\overline{)56}$ **6** $8\overline{)32}$ **7** $7\overline{)63}$ **8** $2\overline{)22}$

9 $4\overline{)36}$ **10** $10\overline{)80}$ **11** $8\overline{)64}$ **12** $12\overline{)72}$

13 $5\overline{)15}$ **14** $9\overline{)63}$ **15** $7\overline{)77}$ **16** $6\overline{)18}$

17 $5\overline{)50}$ **18** $6\overline{)36}$ **19** $6\overline{)24}$ **20** $1\overline{)9}$

Division Timed Practice Sheet 7

1 $2\overline{)10}$ = 5 **2** $8\overline{)40}$ = 5 **3** $3\overline{)9}$ = 3 **4** $11\overline{)55}$ = 5

5 $8\overline{)56}$ = 7 **6** $8\overline{)32}$ = 4 **7** $7\overline{)63}$ = 9 **8** $2\overline{)22}$ = 11

9 $4\overline{)36}$ = 9 **10** $10\overline{)80}$ = 8 **11** $8\overline{)64}$ = 8 **12** $12\overline{)72}$ = 6

13 $5\overline{)15}$ = 3 **14** $9\overline{)63}$ = 7 **15** $7\overline{)77}$ = 11 **16** $6\overline{)18}$ = 3

17 $5\overline{)50}$ = 10 **18** $6\overline{)36}$ = 6 **19** $6\overline{)24}$ = 4 **20** $1\overline{)9}$ = 9

Name: _____

Division Timed Practice Sheet 8

1 $9\overline{)45}$ **2** $11\overline{)66}$ **3** $2\overline{)4}$ **4** $2\overline{)12}$

5 $1\overline{)5}$ **6** $12\overline{)108}$ **7** $5\overline{)55}$ **8** $7\overline{)49}$

9 $5\overline{)60}$ **10** $4\overline{)8}$ **11** $4\overline{)32}$ **12** $10\overline{)40}$

13 $7\overline{)84}$ **14** $7\overline{)21}$ **15** $12\overline{)144}$ **16** $6\overline{)54}$

17 $9\overline{)81}$ **18** $11\overline{)99}$ **19** $4\overline{)40}$ **20** $5\overline{)50}$

Division Timed Practice Sheet 8

1 $9\overline{)45}$ = 5   **2** $11\overline{)66}$ = 6   **3** $2\overline{)4}$ = 2   **4** $2\overline{)12}$ = 6

5 $1\overline{)5}$ = 5   **6** $12\overline{)108}$ = 9   **7** $5\overline{)55}$ = 11   **8** $7\overline{)49}$ = 7

9 $5\overline{)60}$ = 12   **10** $4\overline{)8}$ = 2   **11** $4\overline{)32}$ = 8   **12** $10\overline{)40}$ = 4

13 $7\overline{)84}$ = 12   **14** $7\overline{)21}$ = 3   **15** $12\overline{)144}$ = 12   **16** $6\overline{)54}$ = 9

17 $9\overline{)81}$ = 9   **18** $11\overline{)99}$ = 9   **19** $4\overline{)40}$ = 10   **20** $5\overline{)50}$ = 10

Name: _____

Division Timed Practice Sheet 9

Number Correct: _____

1 $11\overline{)22}$ **2** $4\overline{)12}$ **3** $6\overline{)66}$ **4** $5\overline{)30}$

5 $4\overline{)16}$ **6** $2\overline{)6}$ **7** $5\overline{)45}$ **8** $10\overline{)120}$

9 $10\overline{)40}$ **10** $8\overline{)88}$ **11** $8\overline{)72}$ **12** $12\overline{)36}$

13 $2\overline{)14}$ **14** $11\overline{)121}$ **15** $7\overline{)35}$ **16** $1\overline{)10}$

17 $4\overline{)48}$ **18** $9\overline{)72}$ **19** $12\overline{)84}$ **20** $3\overline{)33}$

Division Timed Practice Sheet 9

1 $11\overline{)22}$ = 2

2 $4\overline{)12}$ = 3

3 $6\overline{)66}$ = 11

4 $5\overline{)30}$ = 6

5 $4\overline{)16}$ = 4

6 $2\overline{)6}$ = 3

7 $5\overline{)45}$ = 9

8 $10\overline{)120}$ = 12

9 $10\overline{)40}$ = 4

10 $8\overline{)88}$ = 11

11 $8\overline{)72}$ = 9

12 $12\overline{)36}$ = 3

13 $2\overline{)14}$ = 7

14 $11\overline{)121}$ = 11

15 $7\overline{)35}$ = 5

16 $1\overline{)10}$ = 10

17 $4\overline{)48}$ = 12

18 $9\overline{)72}$ = 8

19 $12\overline{)84}$ = 7

20 $3\overline{)33}$ = 11

Name: _____

Division Timed Practice Sheet 10

1 $10\overline{)70}$	**2** $6\overline{)12}$	**3** $2\overline{)8}$	**4** $3\overline{)12}$
5 $5\overline{)25}$	**6** $6\overline{)42}$	**7** $5\overline{)20}$	**8** $3\overline{)30}$
9 $2\overline{)18}$	**10** $10\overline{)100}$	**11** $4\overline{)12}$	**12** $8\overline{)48}$
13 $7\overline{)42}$	**14** $12\overline{)36}$	**15** $4\overline{)48}$	**16** $11\overline{)77}$
17 $9\overline{)72}$	**18** $1\overline{)11}$	**19** $3\overline{)33}$	**20** $5\overline{)10}$

Division Timed Practice Sheet 10

1 $10\overline{)70}$ 7

2 $6\overline{)12}$ 2

3 $2\overline{)8}$ 4

4 $3\overline{)12}$ 4

5 $5\overline{)25}$ 5

6 $6\overline{)42}$ 7

7 $5\overline{)20}$ 4

8 $3\overline{)30}$ 10

9 $2\overline{)18}$ 9

10 $10\overline{)100}$ 10

11 $4\overline{)12}$ 3

12 $8\overline{)48}$ 6

13 $7\overline{)42}$ 6

14 $12\overline{)36}$ 3

15 $4\overline{)48}$ 12

16 $11\overline{)77}$ 7

17 $9\overline{)72}$ 8

18 $1\overline{)11}$ 11

19 $3\overline{)33}$ 11

20 $5\overline{)10}$ 2

Name: _____

Mixed Facts Timed Practice Sheet 1

Number Correct: _____

1
$$\begin{array}{r} 4 \\ \times\ 7 \\ \hline \end{array}$$

2 $2\overline{)16}$

3
$$\begin{array}{r} 4 \\ \times\ 5 \\ \hline \end{array}$$

4 $7\overline{)21}$

5
$$\begin{array}{r} 11 \\ \times\ \ 1 \\ \hline \end{array}$$

6 $7\overline{)56}$

7
$$\begin{array}{r} 8 \\ \times\ 8 \\ \hline \end{array}$$

8
$$\begin{array}{r} 3 \\ \times\ 4 \\ \hline \end{array}$$

9 $4\overline{)36}$

10 $3\overline{)18}$

11 $8\overline{)64}$

12
$$\begin{array}{r} 3 \\ \times\ 12 \\ \hline \end{array}$$

13 $9\overline{)45}$

14 $7\overline{)70}$

15
$$\begin{array}{r} 7 \\ \times\ 6 \\ \hline \end{array}$$

16
$$\begin{array}{r} 10 \\ \times\ \ 6 \\ \hline \end{array}$$

17
$$\begin{array}{r} 8 \\ \times\ 2 \\ \hline \end{array}$$

18
$$\begin{array}{r} 9 \\ \times\ 6 \\ \hline \end{array}$$

19 $5\overline{)20}$

20 $5\overline{)55}$

Mixed Facts Timed Practice Sheet 1

1   4
       × 7
       ̲̲̲̲̲
        28

2 $2\overline{)16}$ → 8

3   4
       × 5
       ̲̲̲̲̲
        20

4 $7\overline{)21}$ → 3

5   11
       × 1
       ̲̲̲̲̲
        11

6 $7\overline{)56}$ → 8

7   8
       × 8
       ̲̲̲̲̲
        64

8   3
       × 4
       ̲̲̲̲̲
        12

9 $4\overline{)36}$ → 9

10 $3\overline{)18}$ → 6

11 $8\overline{)64}$ → 8

12   3
       × 12
       ̲̲̲̲̲
        36

13 $9\overline{)45}$ → 5

14 $7\overline{)70}$ → 10

15   7
       × 6
       ̲̲̲̲̲
        42

16   10
       × 6
       ̲̲̲̲̲
        60

17   8
       × 2
       ̲̲̲̲̲
        16

18   9
       × 6
       ̲̲̲̲̲
        54

19 $5\overline{)20}$ → 4

20 $5\overline{)55}$ → 11

Name: _____

Mixed Facts Timed Practice Sheet 2

Number Correct: _____

1
$$2 \times 9$$

2
$$5 \times 10$$

3
$$2\overline{)12}$$

4
$$5 \times 7$$

5
$$6\overline{)42}$$

6
$$11 \times 4$$

7
$$7 \times 8$$

8
$$8\overline{)32}$$

9
$$6\overline{)54}$$

10
$$3\overline{)33}$$

11
$$5 \times 12$$

12
$$1\overline{)12}$$

13
$$12 \times 2$$

14
$$4\overline{)16}$$

15
$$6 \times 9$$

16
$$3 \times 6$$

17
$$12\overline{)24}$$

18
$$3 \times 8$$

19
$$10\overline{)20}$$

20
$$4\overline{)8}$$

Mixed Facts Timed Practice Sheet 2

1 $\begin{array}{r} 2 \\ \times\ 9 \\ \hline 18 \end{array}$

2 $\begin{array}{r} 5 \\ \times\ 10 \\ \hline 50 \end{array}$

3 $2\overline{)12}$ with quotient 6

4 $\begin{array}{r} 5 \\ \times\ 7 \\ \hline 35 \end{array}$

5 $6\overline{)42}$ with quotient 7

6 $\begin{array}{r} 11 \\ \times\ \ 4 \\ \hline 44 \end{array}$

7 $\begin{array}{r} 7 \\ \times\ 8 \\ \hline 56 \end{array}$

8 $8\overline{)32}$ with quotient 4

9 $6\overline{)54}$ with quotient 9

10 $3\overline{)33}$ with quotient 11

11 $\begin{array}{r} 5 \\ \times\ 12 \\ \hline 60 \end{array}$

12 $1\overline{)12}$ with quotient 12

13 $\begin{array}{r} 12 \\ \times\ \ 2 \\ \hline 24 \end{array}$

14 $4\overline{)16}$ with quotient 4

15 $\begin{array}{r} 6 \\ \times\ 9 \\ \hline 54 \end{array}$

16 $\begin{array}{r} 3 \\ \times\ 6 \\ \hline 18 \end{array}$

17 $12\overline{)24}$ with quotient 2

18 $\begin{array}{r} 3 \\ \times\ 8 \\ \hline 24 \end{array}$

19 $10\overline{)20}$ with quotient 3

20 $4\overline{)8}$ with quotient 2

Name: _____

Mixed Facts Timed Practice Sheet 3

Number Correct: _____

1   8
    × 5

2 $3\overline{)12}$

3   4
    × 8

4 $8\overline{)56}$

5   7
    × 7

6 $10\overline{)60}$

7 $4\overline{)8}$

8   6
    × 1

9 $10\overline{)100}$

10   9
    × 2

11 $9\overline{)99}$

12   3
    × 5

13   10
    × 11

14   5
    × 2

15 $3\overline{)27}$

16   12
    × 4

17 $8\overline{)40}$

18   7
    × 9

19 $5\overline{)35}$

20 $12\overline{)36}$

Mixed Facts Timed Practice Sheet 3

1 8
× 5
40

2 4
3⟌12

3 4
× 8
32

4 7
8⟌56

5 7
× 7
49

6 6
10⟌60

7 2
4⟌8

8 6
× 1
6

9 10
10⟌100

10 9
× 2
18

11 11
9⟌99

12 3
× 5
15

13 10
× 11
110

14 5
× 2
10

15 9
3⟌27

16 12
× 4
48

17 5
8⟌40

18 7
× 9
63

19 7
5⟌35

20 3
12⟌36

Name: _____

Mixed Facts Timed Practice Sheet 4

1 $\begin{array}{r} 4 \\ \times\ 6 \\ \hline \end{array}$

2 $5\overline{)40}$

3 $\begin{array}{r} 2 \\ \times\ 11 \\ \hline \end{array}$

4 $3\overline{)21}$

5 $1\overline{)7}$

6 $\begin{array}{r} 12 \\ \times\ 6 \\ \hline \end{array}$

7 $4\overline{)12}$

8 $\begin{array}{r} 2 \\ \times\ 10 \\ \hline \end{array}$

9 $\begin{array}{r} 6 \\ \times\ 8 \\ \hline \end{array}$

10 $5\overline{)50}$

11 $\begin{array}{r} 3 \\ \times\ 3 \\ \hline \end{array}$

12 $9\overline{)72}$

13 $\begin{array}{r} 8 \\ \times\ 10 \\ \hline \end{array}$

14 $\begin{array}{r} 7 \\ \times\ 4 \\ \hline \end{array}$

15 $11\overline{)99}$

16 $\begin{array}{r} 5 \\ \times\ 9 \\ \hline \end{array}$

17 $12\overline{)60}$

18 $6\overline{)36}$

19 $\begin{array}{r} 3 \\ \times\ 5 \\ \hline \end{array}$

20 $7\overline{)28}$

Mixed Facts Timed Practice Sheet 4

1
$$\begin{array}{r} 4 \\ \times\ 6 \\ \hline 24 \end{array}$$

2
$$5\overline{)40}^{\,8}$$

3
$$\begin{array}{r} 2 \\ \times\ 11 \\ \hline 22 \end{array}$$

4
$$3\overline{)21}^{\,7}$$

5
$$1\overline{)7}^{\,7}$$

6
$$\begin{array}{r} 12 \\ \times\ \ 6 \\ \hline 72 \end{array}$$

7
$$4\overline{)12}^{\,3}$$

8
$$\begin{array}{r} 2 \\ \times\ 10 \\ \hline 20 \end{array}$$

9
$$\begin{array}{r} 6 \\ \times\ 8 \\ \hline 48 \end{array}$$

10
$$5\overline{)50}^{\,10}$$

11
$$\begin{array}{r} 3 \\ \times\ 3 \\ \hline 9 \end{array}$$

12
$$9\overline{)72}^{\,8}$$

13
$$\begin{array}{r} 8 \\ \times\ 10 \\ \hline 80 \end{array}$$

14
$$\begin{array}{r} 7 \\ \times\ 4 \\ \hline 28 \end{array}$$

15
$$11\overline{)99}^{\,9}$$

16
$$\begin{array}{r} 5 \\ \times\ 9 \\ \hline 45 \end{array}$$

17
$$12\overline{)60}^{\,5}$$

18
$$6\overline{)36}^{\,6}$$

19
$$\begin{array}{r} 3 \\ \times\ 5 \\ \hline 15 \end{array}$$

20
$$7\overline{)28}^{\,4}$$

Name: _____

Mixed Facts Timed Practice Sheet 5

Number Correct: _____

1
```
    10
×    2
_____
```

2
```
     3
×  11
_____
```

3 3⟌15

4 11⟌55

5 12⟌24

6
```
     7
×  5
_____
```

7
```
     9
×  1
_____
```

8
```
     9
×  7
_____
```

9
```
     8
×  4
_____
```

10
```
    11
×    7
_____
```

11 3⟌12

12 4⟌20

13 7⟌35

14 9⟌36

15
```
    12
×  10
_____
```

16
```
     8
×  9
_____
```

17
```
     9
×  9
_____
```

18 8⟌48

19 6⟌60

20 4⟌24

Mixed Facts Timed Practice Sheet 5

1
$$\begin{array}{r} 10 \\ \times\ 2 \\ \hline 20 \end{array}$$

2
$$\begin{array}{r} 3 \\ \times\ 11 \\ \hline 33 \end{array}$$

3 $3\overline{)15}$ → 5

4 $11\overline{)55}$ → 5

5 $12\overline{)24}$ → 2

6
$$\begin{array}{r} 7 \\ \times\ 5 \\ \hline 35 \end{array}$$

7
$$\begin{array}{r} 9 \\ \times\ 1 \\ \hline 9 \end{array}$$

8
$$\begin{array}{r} 9 \\ \times\ 7 \\ \hline 63 \end{array}$$

9
$$\begin{array}{r} 8 \\ \times\ 4 \\ \hline 32 \end{array}$$

10
$$\begin{array}{r} 11 \\ \times\ 7 \\ \hline 77 \end{array}$$

11 $3\overline{)12}$ → 4

12 $4\overline{)20}$ → 5

13 $7\overline{)35}$ → 5

14 $9\overline{)36}$ → 4

15
$$\begin{array}{r} 12 \\ \times\ 10 \\ \hline 120 \end{array}$$

16
$$\begin{array}{r} 8 \\ \times\ 9 \\ \hline 72 \end{array}$$

17
$$\begin{array}{r} 9 \\ \times\ 9 \\ \hline 36 \end{array}$$

18 $8\overline{)48}$ → 6

19 $6\overline{)60}$ → 10

20 $4\overline{)24}$ → 6

Name: _____

Mixed Facts Timed Practice Sheet 6

Number Correct: _____

1
$$\begin{array}{r} 3 \\ \times\ 9 \\ \hline \end{array}$$

2 $5\overline{)30}$

3 $4\overline{)28}$

4
$$\begin{array}{r} 10 \\ \times\ 8 \\ \hline \end{array}$$

5
$$\begin{array}{r} 8 \\ \times\ 7 \\ \hline \end{array}$$

6
$$\begin{array}{r} 7 \\ \times\ 3 \\ \hline \end{array}$$

7 $2\overline{)20}$

8 $5\overline{)25}$

9 $6\overline{)24}$

10
$$\begin{array}{r} 2 \\ \times\ 12 \\ \hline \end{array}$$

11
$$\begin{array}{r} 11 \\ \times\ 2 \\ \hline \end{array}$$

12 $12\overline{)48}$

13 $1\overline{)11}$

14 $11\overline{)44}$

15
$$\begin{array}{r} 9 \\ \times\ 9 \\ \hline \end{array}$$

16
$$\begin{array}{r} 5 \\ \times\ 3 \\ \hline \end{array}$$

17 $5\overline{)15}$

18
$$\begin{array}{r} 9 \\ \times\ 4 \\ \hline \end{array}$$

19 $6\overline{)48}$

20
$$\begin{array}{r} 3 \\ \times\ 10 \\ \hline \end{array}$$

Mixed Facts Timed Practice Sheet 6

1
$$\begin{array}{r} 3 \\ \times\ 9 \\ \hline 27 \end{array}$$

2 $5\overline{)30}$ — quotient 6

3 $4\overline{)28}$ — quotient 7

4
$$\begin{array}{r} 10 \\ \times\ 8 \\ \hline 80 \end{array}$$

5
$$\begin{array}{r} 8 \\ \times\ 7 \\ \hline 56 \end{array}$$

6
$$\begin{array}{r} 7 \\ \times\ 3 \\ \hline 21 \end{array}$$

7 $2\overline{)20}$ — quotient 10

8 $5\overline{)25}$ — quotient 5

9 $6\overline{)24}$ — quotient 4

10
$$\begin{array}{r} 2 \\ \times\ 12 \\ \hline 24 \end{array}$$

11
$$\begin{array}{r} 11 \\ \times\ 2 \\ \hline 22 \end{array}$$

12 $12\overline{)48}$ — quotient 4

13 $1\overline{)11}$ — quotient 11

14 $11\overline{)44}$ — quotient 4

15
$$\begin{array}{r} 9 \\ \times\ 9 \\ \hline 81 \end{array}$$

16
$$\begin{array}{r} 5 \\ \times\ 3 \\ \hline 15 \end{array}$$

17 $5\overline{)15}$ — quotient 3

18
$$\begin{array}{r} 9 \\ \times\ 4 \\ \hline 36 \end{array}$$

19 $6\overline{)48}$ — quotient 8

20
$$\begin{array}{r} 3 \\ \times\ 10 \\ \hline 30 \end{array}$$

Name: _____

Mixed Facts Timed Practice Sheet 7

Number Correct: _____

1
$$\begin{array}{r} 5 \\ \times\ 4 \\ \hline \end{array}$$

2 $4\overline{)32}$

3
$$\begin{array}{r} 8 \\ \times\ 3 \\ \hline \end{array}$$

4 $7\overline{)14}$

5 $3\overline{)30}$

6 $7\overline{)42}$

7 $6\overline{)30}$

8
$$\begin{array}{r} 6 \\ \times\ 7 \\ \hline \end{array}$$

9
$$\begin{array}{r} 6 \\ \times\ 4 \\ \hline \end{array}$$

10 $4\overline{)40}$

11
$$\begin{array}{r} 7 \\ \times\ 1 \\ \hline \end{array}$$

12
$$\begin{array}{r} 5 \\ \times\ 8 \\ \hline \end{array}$$

13 $9\overline{)81}$

14
$$\begin{array}{r} 10 \\ \times\ 12 \\ \hline \end{array}$$

15 $9\overline{)63}$

16
$$\begin{array}{r} 4 \\ \times\ 9 \\ \hline \end{array}$$

17
$$\begin{array}{r} 6 \\ \times\ 2 \\ \hline \end{array}$$

18
$$\begin{array}{r} 11 \\ \times\ 3 \\ \hline \end{array}$$

19 $11\overline{)22}$

20 $10\overline{)70}$

Mixed Facts Timed Practice Sheet 7

1
$$\begin{array}{r} 5 \\ \times\ 4 \\ \hline 20 \end{array}$$

2
$$4\overline{)32} = 8$$

3
$$\begin{array}{r} 8 \\ \times\ 3 \\ \hline 24 \end{array}$$

4
$$7\overline{)14} = 2$$

5
$$3\overline{)30} = 10$$

6
$$7\overline{)42} = 6$$

7
$$6\overline{)30} = 5$$

8
$$\begin{array}{r} 6 \\ \times\ 7 \\ \hline 42 \end{array}$$

9
$$\begin{array}{r} 6 \\ \times\ 4 \\ \hline 24 \end{array}$$

10
$$4\overline{)40} = 10$$

11
$$\begin{array}{r} 7 \\ \times\ 1 \\ \hline 7 \end{array}$$

12
$$\begin{array}{r} 5 \\ \times\ 8 \\ \hline 40 \end{array}$$

13
$$9\overline{)81} = 9$$

14
$$\begin{array}{r} 10 \\ \times\ 12 \\ \hline 120 \end{array}$$

15
$$9\overline{)63} = 7$$

16
$$\begin{array}{r} 4 \\ \times\ 9 \\ \hline 36 \end{array}$$

17
$$\begin{array}{r} 6 \\ \times\ 2 \\ \hline 12 \end{array}$$

18
$$\begin{array}{r} 11 \\ \times\ 3 \\ \hline 33 \end{array}$$

19
$$11\overline{)22} = 2$$

20
$$10\overline{)70} = 7$$

Name: _____

Mixed Facts Timed Practice Sheet 8

Number Correct: _____

1 10
× 4

2 3)24

3 5)45

4 9
× 3

5 6
× 11

6 6
× 5

7 10)40

8 1)5

9 8)24

10 3)36

11 11
× 9

12 6)18

13 12)72

14 9
× 8

15 9)54

16 8
× 6

17 7)14

18 6
× 7

19 7
× 12

20 5
× 5

Mixed Facts Timed Practice Sheet 8

1
$$\begin{array}{r} 10 \\ \times\ 4 \\ \hline 40 \end{array}$$

2
$$3\overline{)24}^{\ 8}$$

3
$$5\overline{)45}^{\ 9}$$

4
$$\begin{array}{r} 9 \\ \times\ 3 \\ \hline 27 \end{array}$$

5
$$\begin{array}{r} 6 \\ \times\ 11 \\ \hline 66 \end{array}$$

6
$$\begin{array}{r} 6 \\ \times\ 5 \\ \hline 30 \end{array}$$

7
$$10\overline{)40}^{\ 4}$$

8
$$1\overline{)5}^{\ 5}$$

9
$$8\overline{)24}^{\ 3}$$

10
$$3\overline{)36}^{\ 12}$$

11
$$\begin{array}{r} 11 \\ \times\ 9 \\ \hline 99 \end{array}$$

12
$$6\overline{)18}^{\ 3}$$

13
$$12\overline{)72}^{\ 6}$$

14
$$\begin{array}{r} 9 \\ \times\ 8 \\ \hline 72 \end{array}$$

15
$$9\overline{)54}^{\ 6}$$

16
$$\begin{array}{r} 8 \\ \times\ 6 \\ \hline 48 \end{array}$$

17
$$7\overline{)14}^{\ 2}$$

18
$$\begin{array}{r} 6 \\ \times\ 7 \\ \hline 42 \end{array}$$

19
$$\begin{array}{r} 7 \\ \times\ 12 \\ \hline 84 \end{array}$$

20
$$\begin{array}{r} 5 \\ \times\ 5 \\ \hline 25 \end{array}$$

Name: _____

Mixed Facts Timed Practice Sheet 9

Number Correct: _____

1
$$4 \times 4$$

2 $9\overline{)18}$

3
$$9 \times 5$$

4 $3\overline{)12}$

5 $9\overline{)27}$

6
$$11 \times 11$$

7 $5\overline{)60}$

8 $6\overline{)12}$

9 $6\overline{)60}$

10
$$5 \times 6$$

11
$$12 \times 8$$

12
$$8 \times 1$$

13 $7\overline{)49}$

14
$$6 \times 2$$

15
$$11 \times 10$$

16 $7\overline{)77}$

17
$$7 \times 10$$

18 $11\overline{)121}$

19 $8\overline{)16}$

20
$$4 \times 12$$

Mixed Facts Timed Practice Sheet 9

1
$$\begin{array}{r} 4 \\ \times\ 4 \\ \hline 16 \end{array}$$

2 $9\overline{)18}$ with quotient 2

3
$$\begin{array}{r} 9 \\ \times\ 5 \\ \hline 45 \end{array}$$

4 $3\overline{)12}$ with quotient 4

5 $9\overline{)27}$ with quotient 3

6
$$\begin{array}{r} 11 \\ \times\ 11 \\ \hline 121 \end{array}$$

7 $5\overline{)60}$ with quotient 12

8 $6\overline{)12}$ with quotient 2

9 $6\overline{)60}$ with quotient 10

10
$$\begin{array}{r} 5 \\ \times\ 6 \\ \hline 30 \end{array}$$

11
$$\begin{array}{r} 12 \\ \times\ 8 \\ \hline 96 \end{array}$$

12
$$\begin{array}{r} 8 \\ \times\ 1 \\ \hline 8 \end{array}$$

13 $7\overline{)49}$ with quotient 7

14
$$\begin{array}{r} 6 \\ \times\ 2 \\ \hline 12 \end{array}$$

15
$$\begin{array}{r} 11 \\ \times\ 10 \\ \hline 110 \end{array}$$

16 $7\overline{)77}$ with quotient 11

17
$$\begin{array}{r} 7 \\ \times\ 10 \\ \hline 70 \end{array}$$

18 $11\overline{)121}$ with quotient 11

19 $8\overline{)16}$ with quotient 2

20
$$\begin{array}{r} 4 \\ \times\ 12 \\ \hline 48 \end{array}$$

Name: _____

Mixed Facts Timed Practice Sheet 10

Number Correct: _____

1
$$\begin{array}{r} 3 \\ \times\ 6 \\ \hline \end{array}$$

2
$$\begin{array}{r} 10 \\ \times\ 7 \\ \hline \end{array}$$

3 $2\overline{)18}$

4 $11\overline{)88}$

5
$$\begin{array}{r} 7 \\ \times\ 2 \\ \hline \end{array}$$

6 $4\overline{)48}$

7
$$\begin{array}{r} 9 \\ \times\ 10 \\ \hline \end{array}$$

8 $8\overline{)72}$

9
$$\begin{array}{r} 4 \\ \times\ 3 \\ \hline \end{array}$$

10 $7\overline{)63}$

11
$$\begin{array}{r} 3 \\ \times\ 7 \\ \hline \end{array}$$

12
$$\begin{array}{r} 11 \\ \times\ 6 \\ \hline \end{array}$$

13 $3\overline{)9}$

14 $12\overline{)96}$

15 $1\overline{)10}$

16 $5\overline{)15}$

17 $10\overline{)90}$

18
$$\begin{array}{r} 9 \\ \times\ 12 \\ \hline \end{array}$$

19
$$\begin{array}{r} 2 \\ \times\ 5 \\ \hline \end{array}$$

20
$$\begin{array}{r} 11 \\ \times\ 12 \\ \hline \end{array}$$

Mixed Facts Timed Practice Sheet 10

1
$$3 \times 6 = 18$$

2
$$10 \times 7 = 70$$

3
$$2\overline{)18} = 9$$

4
$$11\overline{)88} = 8$$

5
$$7 \times 2 = 14$$

6
$$4\overline{)48} = 12$$

7
$$9 \times 10 = 90$$

8
$$8\overline{)72} = 9$$

9
$$4 \times 3 = 12$$

10
$$7\overline{)63} = 9$$

11
$$3 \times 7 = 21$$

12
$$11 \times 6 = 66$$

13
$$3\overline{)9} = 3$$

14
$$12\overline{)96} = 8$$

15
$$1\overline{)10} = 10$$

16
$$5\overline{)15} = 3$$

17
$$10\overline{)90} = 9$$

18
$$9 \times 12 = 108$$

19
$$2 \times 5 = 10$$

20
$$11 \times 12 = 132$$

Name _____

Fact Practice Graph

Number of Facts Correct per Minute

20 — 15 — 10 — 5 — 0

Number Correct

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

Fact Practice Lesson Number