

## Cumulative Review

1. Create an equivalent ratio for each given ratio below by multiplying the top and bottom by a scale factor ( $\frac{3}{3}$ ,  $\frac{4}{4}$ , etc.).
2. Check for equivalence by simplifying both ratios.
3. Write the proportion, showing that the 2 ratios are equivalent and, therefore, proportional.

Given Ratio	Scale Factor (multiply by the same number)	Equivalent Ratio
$\frac{2 \text{ miles}}{12 \text{ minutes}}$	$\frac{x}{x}$	$\frac{\text{miles}}{\text{minutes}}$

Write the proportion:

$$\frac{2}{12} = \frac{\quad}{\quad} \quad \frac{\quad}{\quad} = \frac{\quad}{\quad}$$

Write the proportion:

$$\frac{\quad}{\quad} = \frac{\quad}{\quad}$$

Given Ratio	Scale Factor (multiply by the same number)	Equivalent Ratio
$\frac{8 \text{ dollars}}{6 \text{ pairs of socks}}$	$\frac{x}{x}$	$\frac{\text{dollars}}{\text{pairs of socks}}$

Write the proportion:

$$\frac{8}{6} = \frac{\quad}{\quad} \quad \frac{\quad}{\quad} = \frac{\quad}{\quad}$$

Write the proportion:

$$\frac{\quad}{\quad} = \frac{\quad}{\quad}$$

**Practice 1**

Determine whether the 2 ratios for each item are proportional by using simplification.

If they are proportional, write the ratios as a proportion. If they are not proportional, write “not proportional.”

After you complete the first 2 problems, and then again after you complete the last 2 problems, check your answers with a partner. Share your reasoning for deciding whether the ratios are proportional or not proportional. Be ready to explain your reasoning or your partner’s reasoning with the group.

1.  $\frac{3}{6}$  and  $\frac{12}{24}$

2.  $\frac{4}{6}$  and  $\frac{6}{24}$

**STOP**: Check with a partner and discuss reasoning.

3.  $\frac{4}{12}$  and  $\frac{5}{15}$

4.  $\frac{8}{24}$  and  $\frac{16}{36}$

**STOP**: Check with a partner and discuss reasoning.

## Practice 2

1. Create 2 ratios.
2. Trade with a partner and determine whether the 2 ratios your partner created are proportional by using simplification. If they are proportional, write the ratios as a proportion. If they are not proportional, write "not proportional."
3. Repeat the steps for another set of 2 ratios.

2 Ratios	Are They Proportional?
— and —	
— and —	

**Name:** \_\_\_\_\_**Independent Practice**

Determine whether the 2 ratios for each item are proportional by using simplification.

If they are proportional, write the ratios as a proportion. If they are not proportional, write "not proportional."

1.  $\frac{9}{27}$  and  $\frac{4}{12}$

2.  $\frac{16}{24}$  and  $\frac{12}{36}$

3.  $\frac{4}{14}$  and  $\frac{10}{35}$

4.  $\frac{15}{25}$  and  $\frac{27}{45}$



## Answer Key: Cumulative Review

Answers will vary.

1. Create an equivalent ratio for each given ratio below by multiplying the top and bottom by a scale factor ( $\frac{3}{3}$ ,  $\frac{4}{4}$ , etc.).
2. Check for equivalence by simplifying both ratios.
3. Write the proportion, showing that the 2 ratios are equivalent and, therefore, proportional.

Given Ratio	Scale Factor (multiply by the same number)	Equivalent Ratio
$\frac{2 \text{ miles}}{12 \text{ minutes}}$	$\frac{\times 4}{\times 4}$	$\frac{8 \text{ miles}}{48 \text{ minutes}}$

Write the proportion:

$$\frac{2}{12} = \frac{1}{6} \quad \frac{8}{48} = \frac{1}{6}$$

Write the proportion:

$$\frac{2}{12} = \frac{8}{48}$$

Given Ratio	Scale Factor (multiply by the same number)	Equivalent Ratio
$\frac{8 \text{ dollars}}{6 \text{ pairs of socks}}$	$\frac{\times 5}{\times 5}$	$\frac{40 \text{ dollars}}{30 \text{ pairs of socks}}$

Write the proportion:

$$\frac{8}{6} = \frac{4}{3} \quad \frac{40}{30} = \frac{4}{3}$$

Write the proportion:

$$\frac{8}{6} = \frac{40}{30}$$



## Answer Key: Practice 1

Determine whether the 2 ratios for each item are proportional by using simplification.

If they are proportional, write the ratios as a proportion. If they are not proportional, write "not proportional."

After you complete the first 2 problems, and then again after you complete the last 2 problems, check your answers with a partner. Share your reasoning for deciding whether the ratios are proportional or not proportional. Be ready to explain your reasoning or your partner's reasoning with the group.

1.  $\frac{3}{6}$  and  $\frac{12}{24}$

$$\frac{3}{6} = \frac{1}{2}$$

$$\frac{12}{24} = \frac{1}{2}$$

$$\frac{3}{6} = \frac{12}{24}$$

2.  $\frac{4}{6}$  and  $\frac{6}{24}$

$$\frac{4}{6} = \frac{2}{3}$$

$$\frac{6}{24} = \frac{1}{4}$$

$$\frac{4}{6} \text{ and } \frac{6}{24} \text{ are not proportional.}$$

**STOP**: Check with a partner and discuss reasoning.

3.  $\frac{4}{12}$  and  $\frac{5}{15}$

$$\frac{4}{12} = \frac{1}{3}$$

$$\frac{5}{15} = \frac{1}{3}$$

$$\frac{4}{12} = \frac{5}{15}$$

4.  $\frac{8}{24}$  and  $\frac{16}{36}$

$$\frac{8}{24} = \frac{1}{3}$$

$$\frac{16}{36} = \frac{4}{9}$$

$$\frac{8}{24} \text{ and } \frac{16}{36} \text{ are not proportional.}$$

**STOP**: Check with a partner and discuss reasoning.



## Answer Key: Practice 2

*Answers will vary.*

1. Create 2 ratios.
2. Trade with a partner and determine whether the 2 ratios your partner created are proportional by using simplification. If they are proportional, write the ratios as a proportion. If they are not proportional, write "not proportional."
3. Repeat the steps for another set of 2 ratios.

2 Ratios	Are They Proportional?
$\frac{6}{8}$ and $\frac{9}{12}$	$\frac{6}{8} = \frac{3}{4}$ $\frac{9}{12} = \frac{3}{4}$ $\frac{6}{8} = \frac{9}{12}$
$\frac{4}{12}$ and $\frac{6}{9}$	$\frac{4}{12} = \frac{1}{3}$ $\frac{6}{9} = \frac{2}{3}$ $\frac{4}{12}$ and $\frac{6}{9}$ are not proportional.



## Answer Key: Independent Practice

Determine whether the 2 ratios for each item are proportional by using simplification.

If they are proportional, write the ratios as a proportion. If they are not proportional, write "not proportional."

1.  $\frac{9}{27}$  and  $\frac{4}{12}$

$$\frac{9}{27} = \frac{1}{3}$$

$$\frac{4}{12} = \frac{1}{3}$$

$$\frac{9}{27} = \frac{4}{12}$$

2.  $\frac{16}{24}$  and  $\frac{12}{36}$

$$\frac{16}{24} = \frac{2}{3}$$

$$\frac{12}{36} = \frac{1}{3}$$

$$\frac{16}{24} \text{ and } \frac{12}{36} \text{ are not proportional.}$$

3.  $\frac{4}{14}$  and  $\frac{10}{35}$

$$\frac{4}{14} = \frac{2}{7}$$

$$\frac{10}{35} = \frac{2}{7}$$

$$\frac{4}{14} = \frac{10}{35}$$

4.  $\frac{15}{25}$  and  $\frac{27}{45}$

$$\frac{15}{25} = \frac{3}{5}$$

$$\frac{27}{45} = \frac{3}{5}$$

$$\frac{15}{25} = \frac{27}{45}$$