

## Cumulative Review

Ratios	Common denominator	Ratio 1	Equivalent ratio 1	Ratio 2	Equivalent ratio 2	Are the ratios proportional?
1. $\frac{3}{4}$ and $\frac{6}{8}$						
2. $\frac{2}{3}$ and $\frac{4}{10}$						

## Cumulative Review (cont.)

3. Determine the scale factor, and then find the missing value.

$$\frac{4}{6} = \frac{32}{x}$$

4. Randy bought 3 packs of chewing gum for a total of 36 pieces of gum. How many pieces of gum would Randy have if he bought 5 packs of gum?

Units	Ratio 1	Unit rate	Ratio 2
Pieces	36		<input type="text"/>
Packs	3		5

## Practice

After completing each problem, check your answers with your partner and discuss reasoning.

Proportion			Solve	Multiplied numerators by...
$\frac{2}{6} = \frac{x}{15}$	Numerators	2 and x	$\frac{2}{6} = \frac{x}{15}$	6 and 15
	Denominators	6 and 15	$\frac{2 \cdot 15}{6 \cdot 15} = \frac{x \cdot 6}{15 \cdot 6}$	
	Common denominator	$6 \cdot 15 = 90$	$\frac{30}{90} = \frac{6x}{90}$ $30 = 6x$ $x = 5$	
$\frac{x}{14} = \frac{9}{21}$	Numerators			
	Denominators			
	Common denominator			
$\frac{x}{12} = \frac{3}{9}$	Numerators			
	Denominators			
	Common denominator			
$\frac{6}{4} = \frac{x}{10}$	Numerators			
	Denominators			
	Common denominator			

Name: \_\_\_\_\_

## Independent Practice

Proportion			Solve	Multipled numerators by...
$\frac{2}{6} = \frac{x}{15}$	Numerators	2 and x	$\frac{2}{6} = \frac{x}{15}$	6 and 15
	Denominators	6 and 15	$\frac{2 \cdot 15}{6 \cdot 15} = \frac{x \cdot 6}{15 \cdot 6}$	
	Common denominator	$6 \cdot 15 = 90$	$\frac{30}{90} = \frac{6x}{90}$ $30 = 6x$ $x = 5$	
$\frac{x}{10} = \frac{6}{15}$	Numerators			
	Denominators			
	Common denominator			
$\frac{x}{9} = \frac{16}{24}$	Numerators			
	Denominators			
	Common denominator			
$\frac{2}{8} = \frac{x}{20}$	Numerators			
	Denominators			
	Common denominator			

## Answer Key: Cumulative Review

Ratios	Common denominator	Ratio 1	Equivalent ratio 1	Ratio 2	Equivalent ratio 2	Are the ratios proportional?
1. $\frac{3}{4}$ and $\frac{6}{8}$	$4 \times 8 = 32$	$\frac{3}{4} = \frac{x}{32}$	$\frac{24}{32}$	$\frac{6}{8} = \frac{x}{32}$	$\frac{24}{32}$	yes
2. $\frac{2}{3}$ and $\frac{4}{10}$	$3 \times 10 = 30$	$\frac{2}{3} = \frac{x}{30}$	$\frac{20}{30}$	$\frac{4}{10} = \frac{x}{30}$	$\frac{12}{30}$	no



## Answer Key: Cumulative Review (cont.)

3. Determine the scale factor, and then find the missing value.

$$\frac{4}{6} = \frac{32}{x}$$

$$\frac{4 \times \boxed{8}}{6 \times \boxed{8}} = \frac{32}{x}$$

$$6 \times 8 = x$$

$$48 = x$$

$$\frac{4}{6} = \frac{32}{\boxed{48}}$$

4. Randy bought 3 packs of chewing gum for a total of 36 pieces of gum. How many pieces of gum would Randy have if he bought 5 packs of gum?

Units	Ratio 1	Unit rate	Ratio 2
Pieces	$36 \div 3$	12	$\boxed{60}$
Packs	$3 \div 3$	1	5

## Answer Key: Practice

After completing each problem, check your answers with your partner and discuss reasoning.

Proportion			Solve	Multipled numerators by...
$\frac{2}{6} = \frac{x}{15}$	Numerators	2 and x	$\frac{2}{6} = \frac{x}{15}$	6 and 15
	Denominators	6 and 15	$\frac{2 \cdot 15}{6 \cdot 15} = \frac{x \cdot 6}{15 \cdot 6}$	
	Common denominator	$6 \cdot 15 = 90$	$\frac{30}{90} = \frac{6x}{90}$ $30 = 6x$ $x = 5$	
$\frac{x}{14} = \frac{9}{21}$	Numerators	x and 9	$\frac{x}{14} = \frac{9}{21}$	14 and 21
	Denominators	14 and 21	$\frac{x \cdot 21}{14 \cdot 21} = \frac{9 \cdot 14}{21 \cdot 14}$	
	Common denominator	$14 \cdot 21 = 294$	$\frac{21x}{294} = \frac{126}{294}$ $21x = 126$ $x = 6$	
$\frac{x}{12} = \frac{3}{9}$	Numerators	x and 3	$\frac{x}{12} = \frac{3}{9}$	12 and 9
	Denominators	12 and 9	$\frac{x \cdot 9}{12 \cdot 9} = \frac{3 \cdot 12}{9 \cdot 12}$	
	Common denominator	$12 \cdot 9 = 108$	$\frac{9x}{108} = \frac{36}{108}$ $9x = 36$ $x = 4$	
$\frac{6}{4} = \frac{x}{10}$	Numerators	6 and x	$\frac{6}{4} = \frac{x}{10}$	4 and 10
	Denominators	4 and 10	$\frac{6 \cdot 10}{4 \cdot 10} = \frac{x \cdot 4}{10 \cdot 4}$	
	Common denominator	$4 \cdot 10 = 40$	$\frac{60}{40} = \frac{4x}{40}$ $60 = 4x$ $x = 15$	



## Answer Key: Independent Practice

Proportion			Solve	Multipled numerators by...
$\frac{2}{6} = \frac{x}{15}$	Numerators	2 and x	$\frac{2}{6} = \frac{x}{15}$	6 and 15
	Denominators	6 and 15	$\frac{2 \cdot 15}{6 \cdot 15} = \frac{x \cdot 6}{15 \cdot 6}$	
	Common denominator	$6 \cdot 15 = 90$	$\frac{30}{90} = \frac{6x}{90}$ $30 = 6x$ $x = 5$	
$\frac{x}{10} = \frac{6}{15}$	Numerators	x and 6	$\frac{x}{10} = \frac{6}{15}$	10 and 15
	Denominators	10 and 15	$\frac{x \cdot 15}{10 \cdot 15} = \frac{6 \cdot 10}{15 \cdot 10}$	
	Common denominator	$10 \cdot 15 = 150$	$\frac{15x}{150} = \frac{60}{150}$ $15x = 60$ $x = 4$	
$\frac{x}{9} = \frac{16}{24}$	Numerators	x and 16	$\frac{x}{9} = \frac{16}{24}$	9 and 24
	Denominators	9 and 24	$\frac{x \cdot 24}{9 \cdot 24} = \frac{16 \cdot 9}{24 \cdot 9}$	
	Common denominator	$9 \cdot 24 = 216$	$\frac{24x}{216} = \frac{144}{216}$ $24x = 144$ $x = 6$	
$\frac{2}{8} = \frac{x}{20}$	Numerators	2 and x	$\frac{2}{8} = \frac{x}{20}$	8 and 20
	Denominators	8 and 20	$\frac{2 \cdot 20}{8 \cdot 20} = \frac{x \cdot 8}{20 \cdot 8}$	
	Common denominator	$8 \cdot 20 = 160$	$\frac{40}{160} = \frac{8x}{160}$ $40 = 8x$ $x = 5$	