

## Lesson 7 Reteach

## Solving Proportions

A proportion is an equation stating that two ratios or rates are equal.

 $\frac{a}{b} = \frac{c}{d}$ 

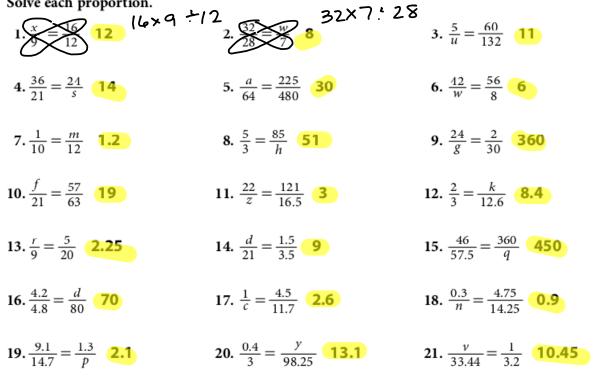
An important property of proportions is that their cross products are equal. You can use this property to solve problems involving proportions.

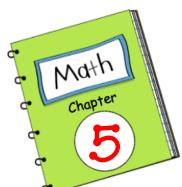
Example	Solve the proportion $\frac{14.1}{c} = \frac{3}{4}$ .
$\frac{14.1}{c} = \frac{3}{4}$	1
$14.1 \cdot 4 = c \cdot 3$	Cross products
56.4 = 3c	Multiply.
$\frac{56.4}{3} = \frac{3c}{3}$	Divide.
18.8 = c	Simplify.

The solution is 18.8.

## Exercises

Solve each proportion.

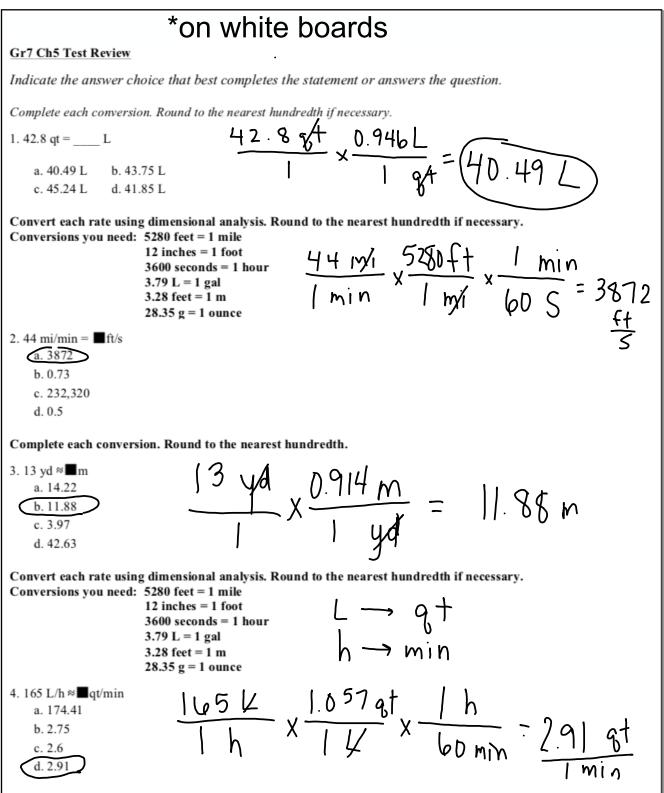




TETLE	28
Ratios	and



Date	Lesson	Topic/Assignment
12-4	4	Converting Rates Video Notes
<u>2512-7</u>	4	Converting Rates in-class Notes
<u>[]</u> []2-](	) 4	Converting Rates More Examples (7L)
12-11	7	Solving Proportions Video Notes
12-11	17	Classwork: Reteach WS
12-14	+ 4,7	Study Guide
L	I	1



5. The space shuttle travels at an orbital speed of about 17,240 miles per hour. How many meters per minute is this? Round to the nearest whole number.

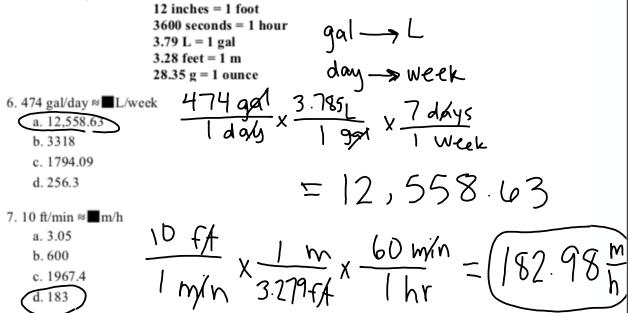
a. 462,319 m per min

b. 462 m per min

c. 287,333 m per min

d. 27,739,160 m per min

Convert each rate using dimensional analysis. Round to the nearest hundredth if necessary. Conversions you need: 5280 feet = 1 mile



Complete each conversion. Round to the nearest hundredth.

8. 145 m ≋**∎**mi

- a. 0.09
- b. 233.31
- c. 90.05
- d. 144.93

9. 9.5 L ≈∎pt

- a. 4.49
- b. 10.04
- c. 9.46
- d. 20.08

Convert each rate using dimensional analysis. Round to the nearest hundredth if necessary. Conversions you need: 5280 feet = 1 mile

> 12 inches = 1 foot 3600 seconds = 1 hour 3.79 L = 1 gal 3.28 feet = 1 m 28.35 g = 1 ounce

10. 2 qt/min = ■gal/h a. 120 b. 0.5 c. 15 d. 30

Solve each proportion.

11.  $\frac{24}{x} = \frac{4}{3.3}$ a. 23.1 b. 19.8 c. 16.5 d. 26.4 12.  $\frac{7}{2} = \frac{x}{10}$ a. 35 b. 42 c. 49 d. 28

13. A pole that is 12 feet tall casts a 20-foot shadow. At the same time, another pole casts a 25-foot shadow. How tall is the second pole?

a. 32 feetb.  $15\frac{1}{2} \text{ feet}$ c.  $41\frac{2}{3} \text{ feet}$ d. 15 feet

14. A map has a scale of 3.5 inches = 20 kilometers. If the distance between two cities on the map is 4.9 inches, what is the actual distance between the cities?

a. 28 km b. 30.6 km

c. 14.3 km d. 0.9 km



Measurement Conversions
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I	Length
Customary to Metric	Metric to Customary
1 in = 2.54 cm	1 cm = 0.394 in
1 ft = 0.305 m	1 m = 3.279 ft
1 yd = 0.914 m	1 m = 1.094 yd
1 mi = 1.609 km	1 km = 0.621 mi
1	m = 100 cm
11	km = 1000 m
1	mi = 5280 ft
	1 yd = 3 ft

Cap	acity
Customary to Metric	Metric to Customary
1 fl oz = 29.574 mL	1 mL = 0.034 fl oz
1 pt = 0.473 L	1 L = 2.114 pt
1 qt = 0.946 L	1 L = 1.057 qt
1 gal = 3.785 L	1 L = 0.264 gal
1 L =	1000 mL
1 c =	= 8 fl oz
1 p	t = 2 c
1 qt	= 2 pt
1 ga	l = 4 qt

Customary to Metric	Metric to Customary
1 oz = 28.350 g	1 g = 0.035 oz
1 lb = 0.454 kg	1 kg = 2.203 lb