

7th Grade
Dec 14, 2020

Today we will:
-review/take notes
-practice on white
boards
-begin study guide
if time



HOMEWORK:

Test and binder
check TOMORROW

ALEKS 60 minutes
and 5 topics due
MONDAY night 11:59
pm



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.

$$ad = bc$$

Example Solve the proportion $\frac{14.1}{c} = \frac{3}{4}$.

$$\frac{14.1}{c} = \frac{3}{4}$$

$$14.1 \cdot 4 = c \cdot 3 \quad \text{Cross products}$$

$$56.4 = 3c \quad \text{Multiply.}$$

$$\frac{56.4}{3} = \frac{3c}{3} \quad \text{Divide.}$$

$$18.8 = c \quad \text{Simplify.}$$

The solution is 18.8.

Exercises

Solve each proportion.

$$1. \frac{x}{9} = \frac{16}{12} \quad \mathbf{12}$$

$16 \times 9 \div 12$

$$2. \frac{32}{28} = \frac{w}{7} \quad \mathbf{8}$$

$32 \times 7 \div 28$

$$3. \frac{5}{u} = \frac{60}{132} \quad \mathbf{11}$$

$$4. \frac{36}{21} = \frac{24}{s} \quad \mathbf{14}$$

$$5. \frac{a}{64} = \frac{225}{480} \quad \mathbf{30}$$

$$6. \frac{12}{w} = \frac{56}{8} \quad \mathbf{6}$$

$$7. \frac{1}{10} = \frac{m}{12} \quad \mathbf{1.2}$$

$$8. \frac{5}{3} = \frac{85}{h} \quad \mathbf{51}$$

$$9. \frac{24}{g} = \frac{2}{30} \quad \mathbf{360}$$

$$10. \frac{f}{21} = \frac{57}{63} \quad \mathbf{19}$$

$$11. \frac{22}{z} = \frac{121}{16.5} \quad \mathbf{3}$$

$$12. \frac{2}{3} = \frac{k}{12.6} \quad \mathbf{8.4}$$

$$13. \frac{r}{9} = \frac{5}{20} \quad \mathbf{2.25}$$

$$14. \frac{d}{21} = \frac{1.5}{3.5} \quad \mathbf{9}$$

$$15. \frac{46}{57.5} = \frac{360}{q} \quad \mathbf{450}$$

$$16. \frac{4.2}{4.8} = \frac{d}{80} \quad \mathbf{70}$$

$$17. \frac{1}{c} = \frac{4.5}{11.7} \quad \mathbf{2.6}$$

$$18. \frac{0.3}{n} = \frac{4.75}{14.25} \quad \mathbf{0.9}$$

$$19. \frac{9.1}{14.7} = \frac{1.3}{p} \quad \mathbf{2.1}$$

$$20. \frac{0.4}{3} = \frac{y}{98.25} \quad \mathbf{13.1}$$

$$21. \frac{v}{33.44} = \frac{1}{3.2} \quad \mathbf{10.45}$$

*on white boards

Gr7 Ch5 Test Review

Indicate the answer choice that best completes the statement or answers the question.

Complete each conversion. Round to the nearest hundredth if necessary.

1. 42.8 qt = ___ L

- a. 40.49 L b. 43.75 L
c. 45.24 L d. 41.85 L

$$\frac{42.8 \text{ qt}}{1} \times \frac{0.946 \text{ L}}{1 \text{ qt}} = 40.49 \text{ L}$$

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

$$\frac{44 \text{ mi}}{1 \text{ min}} \times \frac{5280 \text{ ft}}{1 \text{ mi}} \times \frac{1 \text{ min}}{60 \text{ s}} = 3872 \frac{\text{ft}}{\text{s}}$$

2. 44 mi/min = ■ ft/s

- a. 3872
b. 0.73
c. 232,320
d. 0.5

Complete each conversion. Round to the nearest hundredth.

3. 13 yd ≈ ■ m

- a. 14.22
b. 11.88
c. 3.97
d. 42.63

$$\frac{13 \text{ yd}}{1} \times \frac{0.914 \text{ m}}{1 \text{ yd}} = 11.88 \text{ m}$$

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

$$\begin{array}{l} \text{L} \rightarrow \text{qt} \\ \text{h} \rightarrow \text{min} \end{array}$$

4. 165 L/h ≈ ■ qt/min

- a. 174.41
b. 2.75
c. 2.6
d. 2.91

$$\frac{165 \text{ L}}{1 \text{ h}} \times \frac{1.057 \text{ qt}}{1 \text{ L}} \times \frac{1 \text{ h}}{60 \text{ min}} = \frac{2.91 \text{ qt}}{1 \text{ min}}$$

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

12 inches = 1 foot

3600 seconds = 1 hour

3.79 L = 1 gal

3.28 feet = 1 m

28.35 g = 1 ounce

gal \rightarrow L

day \rightarrow week

6. 474 gal/day \approx L/week

a. 12,558.63

b. 3318

c. 1794.09

d. 256.3

$$\frac{474 \text{ gal}}{1 \text{ day}} \times \frac{3.785 \text{ L}}{1 \text{ gal}} \times \frac{7 \text{ days}}{1 \text{ week}}$$

$$= 12,558.63$$

7. 10 ft/min \approx m/h

a. 3.05

b. 600

c. 1967.4

d. 183

$$\frac{10 \text{ ft}}{1 \text{ min}} \times \frac{1 \text{ m}}{3.279 \text{ ft}} \times \frac{60 \text{ min}}{1 \text{ hr}} = 182.98 \frac{\text{m}}{\text{h}}$$

Complete each conversion. Round to the nearest hundredth.

8. 145 m \approx mi

a. 0.09

b. 233.31

c. 90.05

d. 144.93

9. 9.5 L \approx 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 feet b. $15\frac{1}{2}$ feetc. $41\frac{2}{3}$ 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

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	
1 km = 1000 m	
1 mi = 5280 ft	
1 yd = 3 ft	
Capacity	
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 pt = 2 c	
1 qt = 2 pt	
1 gal = 4 qt	
Mass or Weight	
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
1 kg = 1000 g	