

1-25-18

Aim: SWBAT solve word problems with proportions.

HW: Finish Packet Page 8

Quiz tomorrow

Do Now: Which is the better buy? Show detailed work.

16 ounces for \$3.55 or 20 ounces for \$3.67

Which is the better buy? Show detailed work.

16 ounces for \$3.55 or 20 ounces for \$3.67

$$\frac{\$ 3.55}{16 \text{ oz}} \div \frac{16}{16} = \$ 0.221875 \text{ per oz}$$
$$\approx \$ 0.22 \text{ per oz}$$

$$\frac{\$ 3.67}{20 \text{ oz}} \div \frac{20}{20} = \$ 0.1835 \text{ per oz}$$
$$\approx \$ 0.18 \text{ per oz}$$

The 20 ounce is the better buy b/c it's cheaper per ounce.

Ratios and Proportions
HOMEWORK

7R: Textbook Pg. 351 # 8 - 11, 16 - 23, 29 - 31 & Word Problems WS # 1 - 3

7A: Textbook Pg. 351 # 8 - 11, 16 - 23, 29 - 34 & Word Problems WS # 1 - 3

⑧ $\frac{3}{4} \stackrel{?}{=} \frac{6}{8}$
 $4 \cdot 6 \stackrel{?}{=} 3 \cdot 8$
 $24 = 24$
 YES

⑨ $\frac{1}{2} \stackrel{?}{=} \frac{2}{5}$
 $1 \cdot 5 \stackrel{?}{=} 2 \cdot 2$
 $5 \neq 4$
 NO

⑩ $\frac{14}{21} \stackrel{?}{=} \frac{26}{39}$
 $21 \cdot 26 \stackrel{?}{=} 14 \cdot 39$
 $546 = 546$
 YES

⑪ $\frac{15}{45} \stackrel{?}{=} \frac{45}{135}$
 $15 \cdot 135 \stackrel{?}{=} 45 \cdot 45$
 $2025 = 2025$
 YES

⑫ $\frac{17}{12} = \frac{k}{36}$
 $\frac{12k}{12} = \frac{612}{12}$
 $k = 51$

⑬ $\frac{2}{5} = \frac{c}{20}$
 $\frac{2c}{5} = \frac{40}{5}$
 $c = 8$

⑭ $\frac{7.2}{m} = \frac{2.4}{1.8}$
 $\frac{24m}{2.4} = \frac{12.96}{2.4}$
 $m = 5.4$

⑮ $\frac{256}{9.6} = \frac{1.6}{g}$
 $\frac{256g}{256} = \frac{15.36}{256}$
 $g = 0.06$

⑯ $\frac{67.2}{g} = \frac{16.8}{3.3}$
 $\frac{16.8g}{16.8} = \frac{221.76}{16.8}$
 $g = 13.2$

⑰ $\frac{t}{29.4} = \frac{5.5}{4.2}$
 $\frac{4.2t}{4.2} = \frac{161.7}{4.2}$
 $t = 38.5$

⑱ $\frac{p}{5.4} = \frac{483}{18.9}$
 $\frac{18.9p}{18.9} = \frac{2608.2}{18.9}$
 $p = 138$

⑲ $\frac{712}{8.8} = \frac{x}{18.7}$
 $\frac{8.8x}{8.8} = \frac{13314.4}{8.8}$
 $x = 1513$

⑳ $\frac{2}{x+2} = \frac{18}{27}$
 $18(x+2) = 54$
 $18x + 36 = 54$
 $-36 -36$
 $\frac{18x}{18} = \frac{18}{18}$
 $x = 1$

㉑ $\frac{x-2}{8} = \frac{30}{40}$
 $40(x-2) = 240$
 $40x - 80 = 240$
 $+80 +80$
 $\frac{40x}{40} = \frac{320}{40}$
 $x = 8$

㉒ $\frac{9}{5} = \frac{36}{x-3}$
 $9(x-3) = 180$
 $9x - 27 = 180$
 $+27 +27$
 $\frac{9x}{9} = \frac{207}{9}$
 $x = 23$

㉓ $\frac{5}{x} = \frac{7}{x+4}$
 $7x = 5(x+4)$
 $7x = 5x + 20$
 $-5x -5x$
 $\frac{2x}{2} = \frac{20}{2}$
 $x = 10$

㉔ $\frac{x}{5} = \frac{3x-4}{7}$
 $5(3x-4) = 7x$
 $15x - 20 = 7x$
 $-15x -15x$
 $\frac{-20}{-8} = \frac{-8x}{-8}$
 $\frac{5}{2} = x$

㉕ $\frac{3-5x}{4} = \frac{x+5}{9}$
 $9(3-5x) = 4(x+5)$
 $27 - 45x = 4x + 20$
 $+45x +45x$
 $\frac{27}{-20} = \frac{49x + 20}{-20}$
 $\frac{7}{10} = \frac{49x}{10}$
 $\frac{1}{7} = x$

Ratios and Proportions

Solve algebraically using a proportion. Write your answer in a complete sentence.

1. If 2 liters of fruit juice cost \$3.98, how much do 5 liters of the fruit juice cost?

$$\frac{\$3.98}{2 \text{ L}} = \frac{\$x}{5 \text{ L}}$$

$$\frac{2x}{2} = \frac{19.9}{2}$$

$$x = 9.95$$

It will cost \$9.95.

2. If 64 feet of rope weighs 20 pounds, how much will 80 feet of the same rope weigh?

$$\frac{64 \text{ ft}}{20 \text{ lbs}} = \frac{80 \text{ ft}}{x \text{ lbs}}$$

$$\frac{64x}{64} = \frac{1600}{64}$$

$$x = 25$$

It will weigh 25 pounds.

3. If a 10-pound turkey takes 4 hours to cook, how long will it take a 14-pound turkey to cook?

$$\frac{10 \text{ lb}}{4 \text{ hr}} = \frac{14 \text{ lb}}{x \text{ hr}}$$

$$\frac{10x}{10} = \frac{56}{10}$$

$$x = 5.6$$

It will take 5.6 hours to cook.

4. In 5 hours of driving, Julie traveled 235 kilometers. If she travels at the same rate, how far will she drive in 11 hours?

5. Martha read 12 books in the last 8 weeks. At this rate, how many books will she read in 18 weeks?

6. Pablo typed 410 words in 5 minutes. How many words per minute did he type?

7. Evan paid \$1.12 for a dozen eggs. Determine the cost of 3 eggs.