

Proportions Test Review

1. Marcia pays \$32.40 for 2.4 pounds of steak. What is the price per pound of the steak?

- A. \$12.50
- B. \$13.50**
- C. \$16.20
- D. \$15.20

**B**

$$\frac{\text{price}}{\text{pounds}} \leftarrow \text{per} = \frac{\$32.40}{2.4 \text{ lbs}} = 2.4 \overline{)32.40}$$

$$24 \overline{)324.0} = \$13.50 \text{ per pound}$$

2. Grace uses 6 ounces of peanut butter to make 36 peanut butter cookies. Last week she made 432 peanut butter cookies. How many ounces of peanut butter did Grace use to make the cookies last week? **SET UP PROPORTION FIRST!**

**72 oz**

$$\frac{6 \text{ oz}}{36 \text{ cookies}} = \frac{x \text{ oz}}{432 \text{ cookies}}$$

↑ you can simplify this

$$\frac{1 \text{ oz}}{6 \text{ cookies}} = \frac{x \text{ oz}}{432 \text{ cookies}} \div 6$$

**72 ounces**

\*you can also cross multiply and divide

$$6 \overline{)432} = 72$$

3. A ship traveled 30 miles in 1 hour. At this rate, how many miles will the boat travel in  $\frac{1}{4}$  hour?

- A. 8 miles
- B. 15 miles
- C. 10 miles
- D. 7.5 miles**

**D**

$$\frac{30 \text{ miles}}{1 \text{ hour}} = \frac{x \text{ miles}}{\frac{1}{4} \text{ hr}}$$

$$4 \overline{)30.0} = 7.5 \text{ miles}$$

OR

$$\frac{30 \text{ miles}}{60 \text{ min}} = \frac{x \text{ miles}}{15 \text{ min}}$$

$$4 \overline{)30} = 7.5 \text{ miles}$$

\*can also cross multiply & divide

4. There are 128 slices of pizza in 16 pizzas. If there are the same number of slices in each pizza, how many slices of pizza are in 6 pizzas?

**48 slices**

$$\frac{128 \text{ slices} \div 16}{16 \text{ pizzas} \div 16} = \frac{8 \text{ slices}}{1 \text{ pizza}}$$

simplify first

$$\text{SO } \frac{8 \text{ slices}}{1 \text{ pizza}} = \frac{x \text{ slices}}{6 \text{ pizzas}}$$

$$8 \times 6 = 48$$

**48 slices**

5. Kendra shot a total of 48 free throws at basketball practice on Tuesday. For every 18 free throw shots she took, she made 12. How many free throws did Kendra make in practice?

A

- A. 32 free throws
- B. 12 free throws
- C. 24 free throws
- D. 4 free throws

$$\frac{12 \div 6 \text{ made}}{18 \div 6 \text{ total}} = \frac{X \text{ made}}{48 \text{ total}}$$

$$\frac{2 \text{ made}}{3 \text{ total}} = \frac{X \text{ made}}{48 \text{ total}}$$

$2 \times 16 = 32$  free throws

6. Alonzo is a cook at a new restaurant in town. He can make 375 plates of food in 18 hours. At this rate, how many plates of food can Alonzo make in 6 hours?

125 plates

$$\frac{375 \text{ plates}}{18 \text{ hours}} = \frac{X \text{ plates}}{6 \text{ hours}}$$

$$3 \overline{) 375}$$

$$\begin{array}{r} 125 \\ -3 \\ \hline 07 \\ -6 \\ \hline 15 \\ -15 \\ \hline 0 \end{array}$$

125 plates

7. Marissa has a pet setting job this summer. Last week she worked 8 hours and earned \$64.00. This week she is scheduled to work 15 hours. At this rate, how much will you expect Marissa to make this week?

C

- A. \$8.00
- B. \$105.00
- C. \$120.00
- D. \$96.00

$$\frac{\$64.00}{8 \text{ hrs}} = \frac{\$X}{15 \text{ hrs}}$$

$$\begin{array}{r} 415 \\ \times 8 \\ \hline 120 \end{array}$$

X = 120

8. Every 3 days Mrs. Thompson spends 2.75 hours cleaning the house and 6.5 hours cooking meals. At this rate, how many total hours will Mrs. Thompson spend cleaning the house and cooking meals in 9 days?

27.75 total hours

$$\frac{9.25 \text{ total hours}}{3 \text{ days}} = \frac{X \text{ total hours}}{9 \text{ days}}$$

$$\begin{array}{r} 6.50 \\ + 2.75 \\ \hline 9.25 \text{ total hrs} \end{array}$$

$$\begin{array}{r} 9.25 \\ \times 3 \\ \hline 27.75 \end{array} = 27.75 \text{ total hours}$$

9. A package of 35 hairbands costs \$15.05. At this rate, what is the cost of 1 hairband in dollars and cents?

- A. \$0.43
- B. \$0.50
- C. \$0.62
- D. \$0.71

A

$$\frac{\$15.05}{35 \text{ hairbands}} = \frac{\$X}{1 \text{ hairband}}$$

$\xrightarrow{\div 35}$  (above)  
 $\xrightarrow{\div 35}$  (below)

$$35 \overline{)15.05} = \$0.43 \text{ per hairband}$$

$\begin{array}{r} 0.43 \\ 35 \overline{)15.05} \\ \underline{-140} \phantom{0} \\ 105 \\ \underline{-105} \\ 0 \end{array}$

10. Solve for x:  $\frac{12}{5} = \frac{48}{x}$

$5 \times 4 = 20$        $x = 20$

11. Solve for x:  $\frac{x}{7} = \frac{18}{3}$

*Simplify first*

$\frac{x \times 7}{7} = \frac{6}{1}$        $x = 42$

*Cross multiply and ÷*

$\frac{x}{7} = \frac{18}{3}$        $18 \times 7 = 126$        $126 \div 3 = 42$

12. Casey spends \$185 every 3 months on grocery bills. At this rate, how much will Casey pay for 2 years on grocery bills?

$$\frac{\$185}{3 \text{ months}} = \frac{\$X}{24 \text{ months}}$$

$\xrightarrow{\times 8}$  (above)  
 $\xrightarrow{\times 8}$  (below)

$$\begin{array}{r} 6 \phantom{0} \\ 185 \\ \times 8 \\ \hline 1480 \end{array} = \$1,480$$

*must convert to months first! 12 months in 1 year = 24 months in 2 years*

13. Diedra is 6 feet 2 inches tall. There are 2.54 centimeters in 1 inch. What is Diedra's height in centimeters?

- A. 15.75 cm
- B. 182.88 cm
- C. 187.96 cm
- D. 157.48 cm

C

*must convert feet to inches first*

$12 \times 6 = 72 + 2 = 74$  total inches

*extra 2 inches*

$$\frac{2.54 \text{ cm}}{1 \text{ in}} = \frac{X \text{ cm}}{74 \text{ in}}$$

$\xrightarrow{\times 74}$

$$\begin{array}{r} 3 \phantom{0} \\ 2.54 \\ \times 74 \\ \hline 1016 \\ + 17780 \\ \hline 18796 \end{array} = 187.96 \text{ cm tall}$$