

ALGEBRA 1  
2-7 PRACTICE WORKSHEET

Name KEY  
Date \_\_\_\_\_

Solve each proportion.

$$1. \frac{3}{4} = \frac{a}{12}$$

$$\frac{36}{4} = \frac{4a}{4}$$

$$9 = a$$

$$2. \frac{x}{5} = \frac{2}{3}$$

$$\frac{3x}{3} = \frac{10}{3}$$

$$x = \frac{10}{3}$$

$$3. \frac{4}{n} = \frac{6}{7}$$

$$\frac{28}{6} = \frac{6n}{6}$$

$$\frac{14}{3} = n$$

$$4. \frac{h}{-14} = \frac{5}{-2}$$

$$\frac{-2h}{-2} = \frac{-70}{-2}$$

$$h = 35$$

$$5. \frac{2}{j+3} = \frac{4}{5}$$

$$10 = 4(j+3)$$

$$\frac{10}{-12} = \frac{4j+12}{-12}$$

$$\frac{-2}{4} = \frac{4j}{4}$$

$$-\frac{1}{2} = j$$

$$7. \frac{5}{n-12} = \frac{-1}{n}$$

$$5n = -1(n-12)$$

$$\frac{5n}{+n} = \frac{-n+12}{+n}$$

$$\frac{6n}{6} = \frac{12}{6}$$

$$n = 2$$

$$6. \frac{p+1}{6} = \frac{6}{11}$$

$$11(p+1) = 36$$

$$\frac{11p+11}{-11} = \frac{36}{-11}$$

$$\frac{11p}{11} = \frac{25}{11}$$

$$p = \frac{25}{11}$$

$$8. \frac{4v-2}{8v} = \frac{2}{3}$$

$$\frac{12v-6}{-12v} = \frac{16v}{-12v}$$

$$\frac{-6}{4} = \frac{4v}{4}$$

$$-\frac{3}{2} = v$$

9. Jennifer is ordering a cake for her wedding reception. If one cake will feed 18 people, how many cakes does she need to order for 150 people?

a. Define a variable. let  $c = \#$  of cakes to order

b. Write a **PROPORTION** and solve.

$$\frac{18c}{18} = \frac{150}{18}$$

$$c = 8.3$$

c. Answer in a sentence. She should buy 9 cakes.

10. Julie is drawing a map of her hometown. She knows that City Hall is 3 miles down the street from the Fire Station. If the scale for the map is 0.25 inches : 0.5 miles, how many inches should be between City Hall and the fire station on the map?

a. Define a variable. let  $x =$  the  $\#$  of inches on the map

b. Write a **PROPORTION** and solve.

$$\frac{\text{in}}{\text{mi}} \quad \frac{0.25}{0.5} = \frac{x}{3}$$

$$\frac{0.75}{0.5} = \frac{0.5x}{0.5}$$

$$1.5 = x$$

c. Answer in a sentence. There are 1.5 in btwn City Hall & the fire station

11. On the football team, two out of every seven players are seniors. If the team has 84 players, how many of the players are NOT seniors.

a. Define a variable. let  $x = \#$  of seniors

$x = \#$  of non-seniors

b. Write and solve an equation.

$\frac{\text{seniors}}{\text{players}}$

$$\frac{2}{7} = \frac{x}{84}$$

$$\frac{168}{7} = \frac{7x}{7}$$

$$24 = x$$

OR  $\frac{5}{7} = \frac{x}{84}$

$$420 = 7x$$

$$60 = x$$

c. Answer in a sentence. There are 24 seniors, so there are  $84 - 24 = 60$  non seniors