

Name: Key Period: \_\_\_\_\_ Date: \_\_\_\_\_

Algebra 1  
Review, L. 3.1 to 3.4

Solve each equation, if possible.

1.  $p - 12 = -7$

$p = 5$

2.  $\frac{k}{2} = 3$

$k = 6$

3.  $12n = 28$

$n = \frac{7}{3} = 2\frac{1}{3}$

4.  $\frac{2}{5}p = \frac{7}{6}$

$p = \frac{35}{12}$

5.  $8c - 5 + 3c = 17$   
 $11c - 5 = 17$

$c = 2$

6.  $21 - 9n = 15$

$n = \frac{2}{3}$

7.  $-5.7v - 44.2 = -8.3v$

$+5.7v \quad +5.7v$   
 $-44.2 = -2.6v$

$v = 17$

8.  $-3v - 2 = 2(v + 5) - 5v$

$-3v - 2 = 2v + 10 - 5v$   
 $-3v - 2 = -3v + 10$   
 $+3v \quad +3v$

$-2 \neq 10$   
NO SOLUTION

9.  $3(3n + 4) = 54 + 6n$

$n = 14$

10.  $\frac{1}{3}(5w + 1) = -2$  (-3)  
 $5w + 1 = 6$

$w = 1$

11.  $1.4d + 0.2(0.3d - 2) = 5$

$1.4d + 0.06d - 0.4 = 5$   
 $1.46d - 0.4 = 5$

$1.46d = 5.4$

$d = \frac{270}{73} \approx 3.6986$

12.  $1.5(n + 20) = 0.5(3n + 60)$

$1.5n + 30 = 1.5n + 30$   
 $-1.5n \quad -1.5n$   
 $30 = 30$

All real numbers are solutions

13.  $6(2a + 10) = 5(a + 5)$

$12a + 60 = 5a + 25$   
 $7a + 60 = 25$   
 $7a = -35$

$a = -5$

Solve each equation, if possible.

$$14. \frac{1}{12}(48 + 24b) = 2(17 - 4b)$$

$$4 + 2b = 34 - 8b$$

$$4 + 10b = 34$$

$$10b = 30$$

$$b = 3$$

$$15. 7 - 4(3h - 8) = -4h - 17$$

$$7 - 12h + 32 = -4h - 17$$

$$-12h + 39 = -4h - 17$$

$$-8h + 39 = -17$$

$$-8h = -56$$

$$h = 7$$

Write an equation for the function described. Then find the input.

16. The output of a function is 5 fewer than double the input. Find the input when the output is 11.

$$y = -5 \quad 2x$$

$$y = 2x - 5$$

$$11 = 2x - 5$$

$$16 = 2x$$

$$x = 8$$

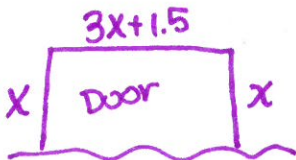
17. A contractor wants to use 34 feet of molding, cut into three pieces, to trim the sides and top of a garage door. The long piece is 1.5 feet longer than three times the length of each shorter piece. Find the length of each piece.

$$x + 3x + 1.5 + x = 34$$

$$5x + 1.5 = 34$$

$$5x = 32.5$$

$$x = 6.5 \text{ feet}$$



18. You decide to make t-shirts to sell for the football game on Friday night. You plan on selling the t-shirts for \$14 apiece. You can purchase the t-shirts for \$8 apiece and spend \$160 in supplies to decorate them. How many t-shirts must you sell to break even? (Write an equation & solve!)

expenses = revenue

$$8x + 160 = 14x$$

$$\begin{array}{r} -8x \\ \hline 160 = 6x \end{array}$$

$$\frac{160}{6} = \frac{6x}{6}$$

$$26.\bar{6} = x$$

You must sell 27 t-shirts to break even.