

**Unit 2 Review**

**Solve the following equations:**

1)  $-4(x - 8) = -4$

$$\begin{array}{r} -4x + 32 = -4 \\ \underline{-32 \quad -32} \\ -4x = -36 \\ \underline{-4 \quad -4} \end{array}$$

$x = 9$

Expand to write an equivalent expression:

2)  $\frac{3}{5}(1 + p) = \frac{21}{20}$

$$\begin{array}{r} \frac{3}{5} + \frac{3}{5}p = \frac{21}{20} \\ \underline{-\frac{3}{5}} \\ \frac{3}{5}p = \frac{12}{20} \\ \frac{5}{3} \cdot \frac{3}{5}p = \frac{39}{20} \cdot \frac{5}{3} \\ p = \frac{3}{4} \end{array}$$

3)  $0.25(3 + a) = 0.5$

$$\begin{array}{r} 0.75 + 0.25a = 0.5 \\ \underline{-0.75} \\ 0.25a = -0.25 \\ \underline{0.25} \\ a = -1 \end{array}$$

4)  $-\frac{1}{4}(8b + 16)$

$$\begin{array}{r} -2b + -4 \text{ or} \\ -2b - 4 \end{array}$$

Factor to write an equivalent expression.

5)  $-3(x + 4)$

$$\begin{array}{r} -3x - 12 \\ \text{or} \\ -3x + -12 \end{array}$$

6)  $20 - 35x$

$$5(4 - 7x)$$

7)  $42a - 21$

$$21(2a - 1)$$

**Simplify the expression:**

8)  $-2a - 3 + 4a + 8$

$$\begin{array}{r} 4a - 2a + 8 - 3 \\ 2a + 5 \end{array}$$

9)  $3(y - 1) + 2(y + 3)$

$$\begin{array}{r} 3y - 3 + 2y + 6 \\ 3y + 2y + 6 - 3 \\ 5y + 3 \end{array}$$

10) Han received a \$65 gift card to the Crocs store. He plans to purchase a new pair for \$39.99. Each new charm is \$3.99. Which inequality represents this situation, where  $c$  is the number of charms Han can purchase.

A.  $65 \geq 39.99 + 3.99c$

B.  $65 \leq 39.99 + 3.99c$

C.  $65 \geq 39.99 - 3.99c$

D.  $65 \leq 39.99 - 3.99c$

$$\underline{< 65}$$

11) Solve the following inequality and graph the solution.

$$\begin{array}{r}
 -5x + 2 < 17 \\
 -2 \quad -2 \\
 \hline
 -5x < 15 \\
 \frac{-5x}{-5} < \frac{15}{-5} \\
 x < -3 \\
 x > -3
 \end{array}$$



12) Stephanie has 10.00. She pays 0.40 for each piece of candy she buys. If she buys 16 pieces of candy, will she have enough money? How do you know?

yes, she will have \$3.60 left.

$16 \times 0.40 = 6.40$

13) Can she buy 25 pieces of candy for \$10.00 and have \$1.00 remaining to share with her sister?

No, it would cost exactly \$10.00.

14)  $10 - 0.40c$  can be used to determine the amount of money she has left. What does  $c$  stand for in this situation?

$c$  stands for the amount of candy she can buy.

15) Write and solve an inequality that represents the situation from #13. What does the solution to the inequality mean?

~~$$\begin{array}{r}
 10 - 0.40c > 1.00 \\
 -10 \quad -10.00 \\
 \hline
 -0.40c > -9.00 \\
 \frac{-0.40c}{-0.40} > \frac{-9.00}{-0.40} \\
 c > 22.5
 \end{array}$$~~

~~$$\begin{array}{l}
 c < 22.5 \\
 c \leq 22
 \end{array}$$~~