

## 1.2-1.3 Quiz Review

For questions 1-10 solve for x.

1.  $-126 = -7(-5x - 2)$

$$-126 = 35x + 14$$

$$-140 = 35x$$

$$\boxed{x = -4}$$

2.  $24 + 7x = -6 + 6(7x + 5)$

$$24 + 7x = -6 + 42x + 30$$

$$24 + 7x = 42x + 24$$

$$-2 = 35x$$

$$\boxed{x = -\frac{2}{35}}$$

3.  $8 - 8|x + 9| = -112$

$$-8|x + 9| = -120$$

$$|x + 9| = 15$$

$$x + 9 = 15 \text{ or } x + 9 = -15$$

$$\boxed{x = 6 \text{ or } x = -24}$$

4.  $\frac{|x+3|}{7} = 1$

$$|x+3| = 7$$

$$x+3=7 \text{ or } x+3=-7$$

$$\boxed{x = 4 \text{ or } x = -10}$$

5.  $208 \leq 4(7x + 3)$

$$52 \leq 7x + 3$$

$$49 \leq 7x$$

$$\boxed{7 \leq x}$$

6.  $-6(x - 5) < 35 - 7x$

$$-6x + 30 < 35 - 7x$$

$$x + 30 < 35$$

$$\boxed{x < 5}$$

7.  $\frac{|-3x|}{5} \leq 3$

$$|-3x| \leq 15$$

$$-3x \leq 15 \text{ or } -3x \geq -15$$

$$\boxed{x \geq -5 \text{ or } x \leq 5}$$

8.  $|3x - 2| + 10 \geq 33$

$$|3x - 2| \geq 23$$

$$3x - 2 \geq 23 \text{ or } 3x - 2 \leq -23$$

$$3x \geq 25 \text{ or } 3x \leq -21$$

$$\boxed{x \geq \frac{25}{3} \text{ or } x \leq -7}$$

9.  $\left|\frac{x}{4}\right| \leq 5$

$$\frac{x}{4} \leq 5 \text{ or } \frac{x}{4} \geq -5$$

$$\boxed{x \leq 20 \text{ or } x \geq -20}$$

10.  $-2|x - 6| - 5 < -13$

$$-2|x - 6| < -8$$

$$|x - 6| > 4$$

$$x - 6 > 4 \text{ or } x - 6 < -4$$

$$\boxed{x > 10 \text{ or } x < 2}$$

For questions 11-13, write an inequality or equation to represent the scenario and then answer the question.

11. Shawna purchased a purse that was 10% off the original price. She also used a \$1 off coupon. Her total savings was \$7.50, how much was the purse before any discounts?

$$0.1x + 1 = 7.50$$

$$0.1x = 6.50$$

$$x = 65$$

The purse was  
Originally \$65

12. Tom, a plumber, charges \$67 per hour plus a service fee of \$50. He gave her an estimate that a job would cost no more than \$452. How many hours does Tom think the job will take?

$$67x + 50 \leq 452$$

$$67x \leq 402$$

$$x \leq 6$$

Tom expects the job to take less than 6 hours

13. A local bakery makes bread each morning. Each regular loaf of bread should weigh 12 ounces. Any loaves of bread that differ from the recommended weight by more than 2.75 ounces are used in the café for sandwiches. What is the weight range for loaves of bread used in the café? Graph the solution on a number line.

$$|x - 12| \leq 2.75$$

$$x - 12 \leq 2.75 \quad \text{or} \quad x - 12 \geq -2.75$$

$$x \leq 14.75 \quad \text{or} \quad x \geq 9.25$$

The loaves of bread need to be between 9.25 and 14.75 ounces

