ALG III Chapter 2 Review Name:______ 8/29/17

Solve each equation.

1. Charles was trying to make the prefect mixture of sweet tea. He wanted a sweet tea that had 20% sugar, but the two sweet teas he had were 25% sugar and 10% sugar. How much 10% sugar tea would Charles need to mix with 2 gallons of 25% sugar tea to get a mixture with 20%?

2. Darlene was going to make a mixed nut product to sell at her stand. How many pounds of \$3 per pound peanuts would she need to mix with 4 pounds of \$6 per pound walnuts to get a mix that was \$5 per pound?

3. Steven Stamkos played 18 minutes, 19 minutes, 21 minutes, and 20 minutes in the first 4 hockey games of the season. How many minutes would he need to play in the 5th game to average at least 22 minutes per game?

Solve the following equations.

4.
$$\frac{2x}{4} + \frac{x-1}{2} = 8$$

5.
$$3(x+1) - 2(2x-7) = 4(x-1)$$

$6. \qquad |2x+1| = 3$

7. 2|3x-1|-6=8

Solve each inequality, graph the answer on a number line, and represent the answer in INTERVAL NOTATION.

4x - 3 < 5x + 2

9.
$$\frac{-4x+22}{5} \ge -3x$$

10.
$$-3x + 2 > 2(2x + 1)$$

11. $7 < 2x - 1 \le 13$

12. 4x + 3 < -6 AND 3x - 7 > 2

13. $2x + 1 < 5 \ OR - 3x + 6 > 12$

14. $|5x+10| \le 15$

15. 5 - |3x - 1| < 4