Name:_____ Adv Algebra 2 1.6 – Absolute Value Homework

Standard: A-SSE.A.1a & A-CED.A.1

- Write and solve equations & inequalities involving absolute value

Solve each equation. Check your answers.

1. $2|x+4|-3=13$

2. $3+2|x-3|+4 \le 24$

3. $3|5t-1|+9 \le 23$

4. $|2x-3|=4x-1$

5. $\frac{2}{3}|3x-6|=4(x-2)$

6. $2|4t-1|+6>20$

7. $\frac{1}{4}|x-3|+2<1$

8. $-2|x+3|-5 \ge 9$

*9. Suppose you used an oven thermometer while baking cookies and discovered that the oven temperature varies from your intended setting. Write an absolute value inequality describing the oven's actual temperature. Let "t" represent the actual temperature.

*10. You purchase a coat that is recommended for cold weather. Write an absolute value inequality describing the conditions that the coat is meant for. Let "t" represent the temperature for which the coat is intended.

*11. A robotic machine on an assembly line drills holes in a panel. Write an absolute value inequality to describe the actual depth of each hole. Let "d" equal the actual depth. What are the allowable dimensions for each hole that is drilled?

WRITING:

12. Describe the differences in the graphs of $|x| < a$ and $|x| > a$, where a is a positive real number.

13. Write an absolute value inequality for which every real number is a solution.

14. Write an absolute value inequality that has no solution.