Name: _____ Date: _____

Homework: Solving Absolute Value Equations and Inequalities

Solve each of the following equations and inequalities.

1) $-6|4x+1|-2 \leq 10$

2) $3 = 9|x-5|$

3) $\left|\frac{2}{5}x+4\right|+6 \geq 30$

4) $5|x-12|+19 = 14$

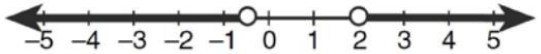
5) $\frac{3}{2}|-2x+9|-2 = 3$

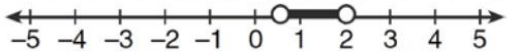
6) $|3x-23|-14 < 8$

7) The depth, d feet, of the water in a pool must satisfy the inequality, $|d - 6| \leq 0.35$. What are the maximum and minimum depths that the pool can be?

8)

Which graph represents the solution set of $\left|\frac{4x-5}{3}\right| > 1$?

1) 

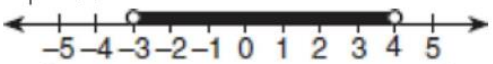
2) 

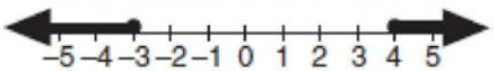
3) 

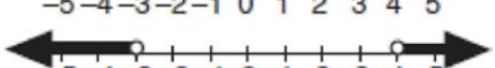
4) 

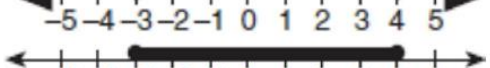
9)

Which graph represents the solution set of $|2x - 1| < 7$?

1) 

2) 

3) 

4) 

10) Determine whether the following statement is *always*, *sometimes*, or *never* true. Explain your reasoning.

Given h is a real number, if $|h| > 4$, then $|h + 5| > 4$.