Name: _____ Period: _____ Date: _____

Absolute Value Equations and Inequalities Bell Work

Solve each equation.

1. $|x + 2| = 8$

2. $|4x + 3| = 33$

3. $|x - 3| + 12 = 50$

4. $|4x - 7| + 2 = 15$

Solve each inequality.

5. $|x + 6| \geq 2$

6. $|3x - 7| < 14$

7. $|3x - 6| + 11 > 17$

Name: _____ Period: _____ Date: _____

Absolute Value Equations and Inequalities Bell Work

Solve each inequality then graph its solution.

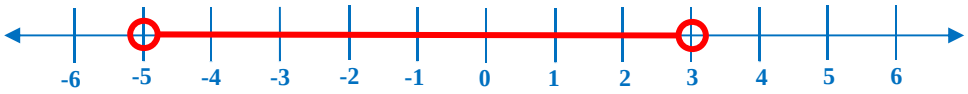
8. $|5 - x| > 6$

9. $|4 - 5x| \leq 19$

10. $|4x + 2| - 3 \geq 11$

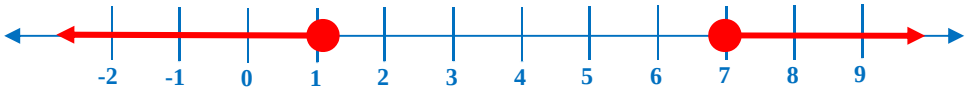
For each graph, write an open sentence involving absolute value.

11.



Midpoint: **Distance from midpoint:**

12.



Midpoint: **Distance from midpoint:**

Name: _____ Period: _____ Date: _____

Absolute Value Equations and Inequalities Bell Work

Solve each equation.

1. $|x+2|=8$

$x+2=8$ | $x+2=-8$

$x+2-2=8-2$ | $x+2-2=-8-2$

$x=6$ | $x=-10$

2. $|4x+3|=33$

$4x+3=33$ | $4x+3=-33$

$4x+3-3=33-3$ | $4x+3-3=-33-3$

$4x=30$ | $4x=-36$

$\frac{4x}{4}=\frac{30}{4}$ | $\frac{4x}{4}=\frac{-36}{4}$

$x=\frac{15}{2}$ | $x=-9$

3. $|x-3|+12=50$

$|x-3|+12-12=50-12$

$|x-3|=38$

$x-3=38$ | $x-3=-38$

$x-3+3=38+3$ | $x-3+3=-38+3$

$x=41$ | $x=-35$

4. $|4x-7|+2=15$

$|4x-7|+2-2=15-2$

$|4x-7|=13$

$4x-7=13$ | $4x-7=-13$

$4x-7+7=13+7$ | $4x-7+7=-13+7$

$4x=20$ | $4x=-6$

$\frac{4x}{4}=\frac{20}{4}$ | $\frac{4x}{4}=-\frac{6}{4}$

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

Solve each inequality.

5. $|x+6|\geq 2$

$x\geq -4$ or $x\leq -8$

$x+6\geq 2$

$x+6-6\geq 2-6$

$x\geq -4$

$x+6\leq -2$

$x+6-6\leq -2-6$

$x\leq -8$

6. $|3x-7|<14$

$-\frac{7}{3}<x<7$

$3x-7<14$

$3x-7+7<14+7$

$3x<21$

$\frac{3x}{3}<\frac{21}{3}$

$x<7$

$3x-7>-14$

$3x-7+7>-14+7$

$3x>-7$

$\frac{3x}{3}>\frac{-7}{3}$

$x>-\frac{7}{3}$

Name: _____ Period: _____ Date: _____

Absolute Value Equations and Inequalities Bell Work

7. $|3x - 6| + 11 > 17$

$|3x - 6| + 11 - 11 > 17 - 11$

$|3x - 6| > 6$

$x > 4$ or $x < 0$

$3x - 6 > 6$

$3x - 6 + 6 > 6 + 6$

$3x > 12$

$\frac{3x}{3} > \frac{12}{3}$

$x > 4$

$3x - 6 < -6$

$3x - 6 + 6 < -6 + 6$

$3x < 0$

$\frac{3x}{3} < \frac{0}{3}$

$x < 0$

Solve each inequality then graph its solution.

8. $|5 - x| > 6$

$x < -1$ or $x > 11$

$5 - x > 6$

$5 - 5 - x > 6 - 5$

$-x > 1$

$\frac{-x}{-1} < \frac{1}{-1}$

$x < -1$

$5 - x < -6$

$5 - 5 - x < -6 - 5$

$-x < -11$

$\frac{-x}{-1} > \frac{-11}{-1}$

$x > 11$

9. $|4 - 5x| \leq 19$

$-3 \leq x \leq \frac{23}{5}$

$4 - 5x \leq 19$

$4 - 4 - 5x \leq 19 - 4$

$-5x \leq 15$

$\frac{-5x}{-5} \geq \frac{15}{-5}$

$x \geq -3$

$4 - 5x \geq -19$

$4 - 4 - 5x \geq -19 - 4$

$-5x \geq -23$

$\frac{-5x}{-5} \leq \frac{-23}{-5}$

$x \leq \frac{23}{5}$

Name: _____ Period: _____ Date: _____

Absolute Value Equations and Inequalities Bell Work

10. $|4x + 2| - 3 \geq 11$

$|4x + 2| - 3 + 3 \geq 11 + 3$

$|4x + 2| \geq 14$

$x \geq 3 \quad or \quad x \leq -4$

$4x + 2 \geq 14$

$4x + 2 - 2 \geq 14 - 2$

$4x \geq 12$

$\frac{4x}{4} \geq \frac{12}{4}$

$x \geq 3$

$4x + 2 \leq -14$

$4x + 2 - 2 \leq -14 - 2$

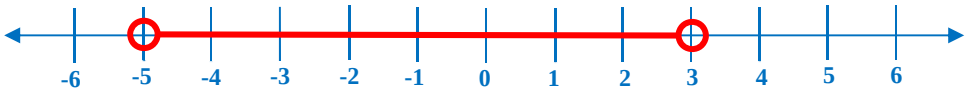
$4x \leq -16$

$\frac{4x}{4} \leq \frac{-16}{4}$

$x \leq -4$

For each graph, write an open sentence involving absolute value.

11.

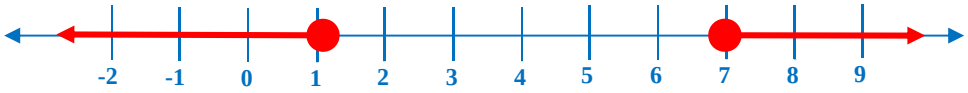


Midpoint: -1

Distance from midpoint: 4

$|x + 1| < 4$

12.



Midpoint: 4

Distance from midpoint: 3

$|x - 4| \geq 3$