

Name: _____

Absolute Value Equations

Exercise 1: Rewrite each of the following inequalities without using absolute values.

1) $|x - 2| = 2$

2) $|2x - 7| = 1$

3) $|4x - 9| = 7$

4) $|x| = 5$

5) $|4x - 11| = 12$

6) $|x - 1| = 2$

Exercise 2: Solve the following.

1) $|x| = 6$

2) $|4x + 7| = -3$

3) $|2x - 6| = 0$

4) $|3x - 4| = 5$

5) $|x - 3| = 6$

6) $|x| = -4$

7) $|x + 1| = 2$

8) $|2x + 1| = 7$

9) $|x - 1| = 2$

10) $|7.32x + 0.87| = 2.65$

11) $|2.7x + 1.9| = 4.7$

12) $|5.3x + 2.2| = 5.8$

13) $\left|\frac{3}{4}x + \frac{1}{2}\right| = \frac{5}{8}$

14) $\left|\frac{2}{5}x + \frac{3}{15}\right| = \frac{1}{3}$

Exercise 3: Solve each equation and check if the answers will make the statement a true statement.

1) $|x - 4| = |2x + 9|$

2) $|2.7x - 4.3| = |1.3x + 5.2|$

3) $\left|\frac{1}{3}x - \frac{3}{8}\right| = \left|\frac{5}{12}x + \frac{7}{24}\right|$