

A2.A.1: Absolute Value Equations 2: Solve absolute value equations and inequalities involving linear expressions in one variable

- 1 What is the solution set of the equation $|2x - 1| = 9$?
- 2 What is the solution set of the equation $|2x + 1| = 9$?
- 3 What is the solution set for the equation $|3x + 2| = 5$?
- 4 What is the solution set of the equation $|4x - 3| = 17$?
- 5 What is the solution set for the equation $|3 - 2x| = 5$?
- 6 What is the solution set of the equation $|2 - 3x| = 5$?
- 7 The solution set of the equation $|2x - 1| + 4 = 8$
- 8 What is the solution set of the equation $|x - 6| + 4 = 10$?
- 9 What is the solution set of $|x - 2| = 3x + 10$?
- 10 What is the solution set for the equation $|3x - 1| = x + 5$?
- 11 What is the solution set for the equation $2x + |x| = -2$?
- 12 What is the solution set of the equation $|4a + 6| - 4a = -10$?

A2.A.1: Absolute Value Equations 2: Solve absolute value equations and inequalities involving linear expressions in one variable**Answer Section**

1 ANS:

$$\{5, -4\}$$

REF: 068923siii

2 ANS:

$$\{4, -5\}$$

REF: 089717siii

3 ANS:

$$\left\{1, -\frac{7}{3}\right\}$$

REF: 089417siii

4 ANS:

$$\left\{5, -\frac{7}{2}\right\}$$

REF: 089518siii

5 ANS:

$$\{-1, 4\}$$

REF: 011005b

6 ANS:

$$\left\{-1, \frac{7}{3}\right\}$$

REF: 088727siii

7 ANS:

$$\left\{\frac{5}{2}, -\frac{3}{2}\right\}$$

REF: 010223siii

8 ANS:

$$\{0, 12\}$$

REF: 080222siii

9 ANS:

$$\{-2\}$$

$$x - 2 = 3x + 10 \quad -6 \text{ is extraneous. } x - 2 = -3x - 10$$

$$-12 = 2x$$

$$4x = -8$$

$$-6 = x$$

$$x = -2$$

REF: 061513a2

10 ANS:

$$\{-1, 3\}$$

REF: 019624siii

11 ANS:

$$\{-2\}$$

REF: 089923siii

12 ANS:

$$\emptyset$$

$$4a + 6 = 4a - 10. \quad 4a + 6 = -4a + 10. \quad \left| 4\left(\frac{1}{2}\right) + 6 \right| - 4\left(\frac{1}{2}\right) = -10$$

$$6 \neq -10$$

$$8a = 4$$

$$8 - 2 \neq -10$$

$$a = \frac{4}{8} = \frac{1}{2}$$

REF: 011106a2