ABSOLUTE VALUE EQUATIONS #1

Directions: Solve each of the absolute value equations below. Test each possible solution by replacing the variable with each possible value. For your answer choose the values that make the equation true. Circle the correct answer.

Examples:
1) \(|x + 7| = 10\)
   a) \(x = 2\) and \(x = 8\)
   b) \(x = 1\) and \(x = -19\)
   c) \(x = -3\) and \(x = 10\)

2) \(|x - 8| = 6\)
   a) \(x = 11\) and \(x = -10\)
   b) \(x = 0\) and \(x = 6\)
   c) \(x = 14\) and \(x = 2\)

3) \(|x + 3| = 13\)
   a) \(x = 10\) and \(x = -16\)
   b) \(x = 6\) and \(x = 3\)
   c) \(x = -4\) and \(x = 2\)

4) \(|x + 1| = 9\)
   a) \(x = 8\) and \(x = -7\)
   b) \(x = 8\) and \(x = -11\)
   c) \(x = 8\) and \(x = -10\)

5) \(|2x + 4| = 10\)
   a) \(x = 3\) and \(x = -7\)
   b) \(x = 1\) and \(x = -9\)
   c) \(x = -3\) and \(x = 10\)

6) \(|x - 6| = 6\)
   a) \(x = 0\) and \(x = 12\)
   b) \(x = 1\) and \(x = 6\)
   c) \(x = 14\) and \(x = 4\)

7) \(|2x + 3| = 13\)
   a) \(x = 1\) and \(x = -6\)
   b) \(x = -6\) and \(x = 3\)
   c) \(x = -8\) and \(x = 5\)

8) \(|x + 1| = 1\)
   a) \(x = -2\) and \(x = -7\)
   b) \(x = -2\) and \(x = 0\)
   c) \(x = -2\) and \(x = -1\)

9) \(|x + 9| = 14\)
   a) \(x = -19\) and \(x = 1\)
   b) \(x = 5\) and \(x = -23\)
   c) \(x = -3\) and \(x = -19\)

10) \(|x - 6| = 8\)
    a) \(x = 14\) and \(x = -2\)
    b) \(x = 2\) and \(x = 14\)
    c) \(x = -14\) and \(x = 2\)

11) \(|x - 3| = 13\)
    a) \(x = -10\) and \(x = 16\)
    b) \(x = 16\) and \(x = 3\)
    c) \(x = -16\) and \(x = 10\)

12) \(|x - 1| = 9\)
    a) \(x = 8\) and \(x = -7\)
    b) \(x = 8\) and \(x = -11\)
    c) \(x = -8\) and \(x = 10\)

13) \(|4x + 4| = 20\)
    a) \(x = 2\) and \(x = 8\)
    b) \(x = 4\) and \(x = -6\)
    c) \(x = -3\) and \(x = 1\)

14) \(|10x - 10| = 60\)
    a) \(x = 1\) and \(x = -10\)
    b) \(x = -5\) and \(x = 7\)
    c) \(x = 4\) and \(x = 2\)

15) \(|8x + 4| = 28\)
    a) \(x = 3\) and \(x = -4\)
    b) \(x = 6\) and \(x = 3\)
    c) \(x = -4\) and \(x = 2\)

16) \(|x + 1| = 90\)
    a) \(x = -8\) and \(x = 89\)
    b) \(x = -9\) and \(x = 89\)
    c) \(x = -91\) and \(x = 89\)