

## Chapter 3 Section 5

## Equations and Inequalities

Solve each equation or inequality exactly

1.  $|2x - 7| = 19$

2.  $|5x + 9| + 5 = 17$

3.  $|7x - 8| + 11 = 3$

4.  $|2x + 7| < 5$

a.  $[-6, -1]$

b.  $(-6, -1)$

c.  $(\infty, -6) \cup (-1, \infty)$

d.  $(\infty, -6] \cup [-1, \infty)$

ae. all reals

be. no solutions

5.  $|2x + 11| \leq 5$

a.  $[-8, -3]$

b.  $(-8, -3)$

c.  $(\infty, -8) \cup (-3, \infty)$

d.  $(\infty, -8] \cup [-3, \infty)$

ae. all reals

be. no solutions

6.  $|2x + 17| > 15$

a.  $[-16, -1]$

b.  $(-16, -1)$

c.  $(\infty, -16) \cup (-1, \infty)$

d.  $(\infty, -16] \cup [-1, \infty)$

ae. all reals

be. no solutions

7.  $|2x + 11| \geq 9$

a.  $[-10, -1]$

b.  $(-10, -1)$

c.  $(\infty, -10) \cup (-1, \infty)$

d.  $(\infty, -10] \cup [-1, \infty)$

ae. all reals

be. no solutions

8.  $|2x + 11| + 9 \geq 18$

a.  $[-10, -1]$

b.  $(-10, -1)$

c.  $(\infty, -10) \cup (-1, \infty)$

d.  $(\infty, -10] \cup [-1, \infty)$

ae. all reals

be. no solutions

9.  $|2x + 11| + 18 \geq 9$

a.  $[-10, -1]$

b.  $(-10, -1)$

c.  $(\infty, -10) \cup (-1, \infty)$

d.  $(\infty, -10] \cup [-1, \infty)$

ae. all reals

be. no solutions

10.  $|2x + 11| + 18 \leq 9$

a.  $[-10, -1]$

b.  $(-10, -1)$

c.  $(\infty, -10) \cup (-1, \infty)$

d.  $(\infty, -10] \cup [-1, \infty)$

ae. all reals

be. no solutions

11.  $|2x + 11| + 9 < 18$

a.  $[-10, -1]$

b.  $(-10, -1)$

c.  $(\infty, -10) \cup (-1, \infty)$

d.  $(\infty, -10] \cup [-1, \infty)$

ae. all reals

be. no solutions

# Absolute Value Equations and Inequalities

**Answers:**

1. 13,-6
2.  $21/5$ ,  $-3/5$
3. no solutions
4. b
5. a
6. c
7. d
8. d
9. ae
10. be
11. b