

Section 1.8

Video 1

Solve. Present your solution set in set-builder notation, on a number line, and using interval notation.

1) $|x - 3| = 5$

2) $|2x - 5| - 3 = 18$

3) $|2x + 9| = |x - 3|$

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

Video 2

Solve. Present your solution set in set-builder notation, on a number line, and using interval notation.

5) $|x + 5| < 7$

6) $2|x - 4| - 9 \leq 17$

Video 3

Solve. Present your solution set in set-builder notation, on a number line, and using interval notation.

7) $|x + 6| \geq 12$

8) $|4x - 2| - 5 > 9$

Video 4

Solve.

9) $|3x - 18| = 0$

10) $|x - 5| < -4$

11) $|x + 8| + 13 > 7$

Video 5

Express each statement using an absolute value inequality.

12) n is no more than 4 units from 10.

13) y is within 0.3 unit from 8.7.

Video 6

14) Suppose $y = 4x - 7$ and we want y to be within 0.05 unit of 10. For what values of x will this be true?

15) Suppose $y = 3x + 2$ and we want y to be within ε (epsilon) units of 14 whenever x is less than δ (delta) units away from 4. For what values of x will this be true? (Your answer will be in terms of ε .)