

Exercise 13

For the following exercises, solve the equations below and express the answer using set notation.

$$|4x - 2| = 11$$

Solution

Remove the absolute value sign by placing \pm (read as “plus or minus”) on the right side.

$$|4x - 2| = 11$$

$$4x - 2 = \pm 11$$

$$4x - 2 = 11 \quad \text{or} \quad 4x - 2 = -11$$

$$4x = 13 \quad \text{or} \quad 4x = -9$$

$$x = \frac{13}{4} \quad \text{or} \quad x = -\frac{9}{4}$$

Therefore,

$$x = \left\{ -\frac{9}{4}, \frac{13}{4} \right\}.$$