

## Exercise 16

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

$$3|x + 1| - 4 = 5$$

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### Solution

Isolate the absolute value term. Start by adding 4 to both sides.

$$3|x + 1| = 9$$

Divide both sides by 3.

$$|x + 1| = 3$$

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

$$x + 1 = \pm 3$$

$$x + 1 = 3 \quad \text{or} \quad x + 1 = -3$$

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

Therefore,

$$x = \{-4, 2\}.$$