

# Solve Equations With the Distributive Property

You can use the distributive property to help solve some equations.

**Let's try it!**

Solve  $4(h - 9) + 7 = 3$ . Use the distributive property to help.

Use the distributive property. Distribute 4 to each of the terms inside of the parentheses.

$$4(h - 9) + 7 = 3$$

$$4(h) + 4(-9) + 7 = 3$$

Simplify. Then identify and combine the like terms on the same side of the equation. Pay attention to the signs.

$$4h - 36 + 7 = 3$$

$$4h - 29 = 3$$

Use inverse operations to get the constant terms together on one side of the equation. Add 29 to both sides and simplify.

$$4h - 29 + 29 = 3 + 29$$

$$4h = 32$$

Use inverse operations to get  $h$  alone. Divide both sides by 4 and simplify.

$$\frac{4h}{4} = \frac{32}{4}$$

$$h = 8$$

**Practice!** Solve each equation.

1.  $10(b + 2) + 3 = 73$

$$b = 5$$

2.  $1 + 3(4f - 7) = 28$

$$f = 4$$

3.  $8(3r - 4) - 1 = -57$

$$r = -1$$

4.  $-4(2a - 1) + 5 = 81$

$$a = -9$$

5.  $-4 + 7(3v + 2) = 52$

$$v = 2$$

6.  $-2 - 2(3w - 5) = 80$

$$w = -12$$

7.  $2(7t + 8) = 6t - 40$

$$t = -7$$

8.  $-5(-2d + 1) = 13 + 4d$

$$d = 3$$

9.  $4(-8g + 1) = -20g - 8$

$$g = 1$$