

# Solving Algebraic Equations with Exponents

Name: \_\_\_\_\_ Score: \_\_\_\_\_

Solve for each variable.

$$m^2 + 10 = 26$$

$$r^2 + 10 = 19$$

$$v^3 + 2 = 10$$

$$3b^2 = 75$$

$$2n^2 + 8 = 80$$

$$e^2 + 61 = 110$$

$$x^3 + 15 = 42$$

$$2h^2 - 190 = 10$$

$$4g^2 - 88 = 12$$

$$3m^2 - 11 = 1$$

$$4r^2 + 25 = 89$$

$$v^2 + 32 = 132$$

$$3b^2 = 48$$

$$6n^3 + 15 = 69$$

$$3e^2 + 30 = 105$$

$$x^3 + 8 = 9$$

$$2h^2 + 23 = 151$$

$$4g^2 - 8 = 136$$

$$2z^2 + 20 = 118$$

$$10h^2 + 10 = 100$$

$$a^4 - 8 = 8$$

# Answers

Solve for each variable.

$$m^2 + 10 = 26$$

$$m = 4 \text{ or } -4$$

$$r^2 + 10 = 19$$

$$r = 3 \text{ or } -3$$

$$v^3 + 2 = 10$$

$$v = 2$$

$$3b^2 = 75$$

$$b = 5 \text{ or } -5$$

$$2n^2 + 8 = 80$$

$$n = 6 \text{ or } -6$$

$$e^2 + 61 = 110$$

$$e = 7 \text{ or } -7$$

$$x^3 + 15 = 42$$

$$x = 3$$

$$2h^2 - 190 = 10$$

$$h = 10 \text{ or } -10$$

$$4g^2 - 88 = 12$$

$$g = 5 \text{ or } -5$$

$$3m^2 - 11 = 1$$

$$m = 2 \text{ or } -2$$

$$4r^2 + 25 = 89$$

$$r = 4 \text{ or } -4$$

$$v^2 + 32 = 132$$

$$v = 10 \text{ or } -10$$

$$3b^2 = 48$$

$$b = 4 \text{ or } -4$$

$$6n^3 + 15 = 69$$

$$n = 3$$

$$3e^2 + 30 = 105$$

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$$x^3 + 8 = 9$$

$$x = 1$$

$$2h^2 + 23 = 151$$

$$h = 8 \text{ or } -8$$

$$4g^2 - 8 = 136$$

$$g = 6 \text{ or } -6$$

$$2z^2 + 20 = 118$$

$$z = 7 \text{ or } -7$$

$$10h^2 + 10 = 100$$

$$h = 3 \text{ or } -3$$

$$a^4 - 8 = 8$$

$$a = 2 \text{ or } -2$$