

# Solving Algebraic Equations with Exponents

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

Solve for each variable.

$$x^2 + 101 = 110$$

$$2v^2 + 5 = 23$$

$$n^3 + 6 = 33$$

$$3c^2 = 108$$

$$3q^2 + 18 = 66$$

$$f^2 + 20 = 56$$

$$d^3 + 20 = 28$$

$$x^2 - 100 = 0$$

$$2h^2 - 17 = -9$$

$$2y^2 - 110 = -60$$

$$3q^2 + 35 = 62$$

$$v^2 + 300 = 700$$

$$2q^2 = 50$$

$$3n^3 + 15 = 96$$

$$2e^2 + 30 = 230$$

$$2x^3 + 5 = 21$$

$$v^2 + 20 = 84$$

$$2g^2 - 4 = 28$$

$$y^2 + 10 = 46$$

$$h^2 + 30 = 39$$

$$x^4 - 6 = -2$$

# Answers

Solve for each variable.

$$x^2 + 101 = 110$$

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

$$2v^2 + 5 = 23$$

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

$$n^3 + 6 = 33$$

$$n = 3$$

$$3c^2 = 108$$

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

$$3q^2 + 18 = 66$$

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

$$f^2 + 20 = 56$$

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

$$d^3 + 20 = 28$$

$$d = 2$$

$$x^2 - 100 = 0$$

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

$$2h^2 - 17 = -9$$

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

$$2y^2 - 110 = -60$$

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

$$3q^2 + 35 = 62$$

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

$$v^2 + 300 = 700$$

$$v = 20 \text{ or } -20$$

$$2q^2 = 50$$

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

$$3n^3 + 15 = 96$$

$$n = 3$$

$$2e^2 + 30 = 230$$

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

$$2x^3 + 5 = 21$$

$$x = 2$$

$$v^2 + 20 = 84$$

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

$$2g^2 - 4 = 28$$

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

$$y^2 + 10 = 46$$

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

$$h^2 + 30 = 39$$

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

$$x^4 - 6 = -2$$

$$x = 1 \text{ or } -1$$