

Solving Algebraic Equations with Exponents

Name: _____ Score: _____

Solve for each variable.

$$a^2 + 6 = 10$$

$$2d^2 + 5 = 37$$

$$n^3 + 6 = -21$$

$$3c^2 = 48$$

$$2y^2 + 20 = 52$$

$$h^2 + 20 = 25$$

$$e^3 + 20 = -105$$

$$x^2 - 40 = 24$$

$$2t^2 - 30 = -22$$

$$3y^2 - 50 = 25$$

$$5v^2 + 45 = 65$$

$$d^2 + 30 = 79$$

$$2p^2 = 72$$

$$3m^3 + 15 = 207$$

$$r^2 + 10 = 410$$

$$2t^3 + 4 = 20$$

$$v^2 + 20 = 69$$

$$4h^2 - 5 = -1$$

$$x^2 + 20 = 36$$

$$2y^2 + 20 = 38$$

$$g^4 - 9 = 7$$

Answers

Solve for each variable.

$$a^2 + 6 = 10$$

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

$$2d^2 + 5 = 37$$

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

$$n^3 + 6 = -21$$

$$n = -3$$

$$3c^2 = 48$$

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

$$2y^2 + 20 = 52$$

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

$$h^2 + 20 = 25$$

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

$$e^3 + 20 = -105$$

$$e = -5$$

$$x^2 - 40 = 24$$

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

$$2t^2 - 30 = -22$$

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

$$3y^2 - 50 = 25$$

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

$$5v^2 + 45 = 65$$

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

$$d^2 + 30 = 79$$

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

$$2p^2 = 72$$

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

$$3m^3 + 15 = 207$$

$$m = 4$$

$$r^2 + 10 = 410$$

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

$$2t^3 + 4 = 20$$

$$t = 2$$

$$v^2 + 20 = 69$$

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

$$4h^2 - 5 = -1$$

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

$$x^2 + 20 = 36$$

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

$$2y^2 + 20 = 38$$

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

$$g^4 - 9 = 7$$

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