

Problem Set 1

Completely simplify each radical expression; this includes, but is not limited to, a need to rationalize all denominators.

- a. $\sqrt{20}$ b. $\sqrt{18}$ c. $\sqrt{48}$ d. $\sqrt{50}$ e. $\frac{3}{\sqrt{3}}$
- f. $\frac{1}{\sqrt{2}}$ g. $\sqrt{450}$ h. $\sqrt{396}$ i. $\frac{4}{\sqrt{32}}$ j. $\frac{7}{\sqrt{77}}$
- k. $\frac{-8 \pm \sqrt{44}}{6}$ l. $\frac{10 \pm \sqrt{27}}{2}$ m. $\frac{-12 \pm \sqrt{100}}{4}$ n. $\frac{6 \pm \sqrt{288}}{6}$

Problem Set 2

Solve each equation using the square root property.

- a. $(5w - 2)^2 = 88$ b. $(3x + 1)^2 + 4 = 0$ c. $(6t + 10)^2 = 72$

Problem Set 3

Solve each equation using the quadratic formula.

- a. $2x^2 - 4x - 3 = 0$ b. $-x^2 + 3x - 2 = 0$ c. $(t + 3)(t - 7) = 10$ d. $3x^2 + 5 = x$

Problem Set 4

You've learned three different methods for solving quadratic equations. Another skill you need to develop is the ability to make appropriate choices with regards to the solution method to apply to a given equation.

Without changing the equations in any way what-so-ever, decide what would be the best solution method for each of the following equations. The options are as follows.

- i. use the zero principle ii. use the square root property
- iii. use the quadratic formula iv. there's no way of knowing which method to use without first doing some algebra

The equations are:

- a. $x^2 + 5x - 6 = 0$ b. $(x + 2)(3x - 8) = 0$ c. $(x + 2)(3x - 8) = 9$
- d. $(x + 2)^2 = 9$ e. $x^2 - 2x + 5 = 0$ f. $x(x - 6) = -8$
- g. $(x - 6)(x - 6) = -8$ h. $2x^2 - x = 40$ i. $x^2 + 49x = 0$
- j. $(2x - 1)(3x + 2) = (6x + 5)(x - 4)$

Problem 5

Go ahead and solve each of the equations in problem set 4.

Problem 6

Solve equations a, b, d, f, and i using a different method than you used in problem 5.