

## Section 7.1 Focus Exercises

1. Use the Zero Product Principle to solve each equation.

a)  $(x + 3)(x - 7) = 0$

b)  $(x - 2)(x - 4) = 0$

c)  $(4x - 5)(2x + 9) = 0$

d)  $(2x + 3)(5x - 6) = 0$

e)  $-2x(x + 5) = 0$

f)  $3x(9x - 5) = 0$

g)  $(x + 8)(x - 8) = 0$

h)  $(2x - 3)(2x + 3) = 0$

2. Factor the polynomial and use the Zero Product Principle to solve each equation.

a)  $x^2 - 25 = 0$

b)  $x^2 - 49 = 0$

c)  $6x^2 - 54x = 0$

d)  $-3x^2 + 12x = 0$

3. Factor the polynomial and use the Zero product Principle to solve each equation.

a)  $x^2 - 9x + 20 = 0$

b)  $x^2 + 12x + 35 = 0$

c)  $x^2 - x - 90 = 0$

d)  $x^2 + x - 42 = 0$

e)  $4x^2 + 7x - 15 = 0$

f)  $2x^2 - 13x + 15 = 0$

g)  $4x^2 - 9x - 9 = 0$

h)  $6x^2 + 14x + 4 = 0$

4. Solve each quadratic equation by first having one side become 0. *Check your answers to verify that they are solutions.*

a)  $x^2 + 2x - 4 = 59$

b)  $x^3 + 23x^2 = 50x$

c)  $(x + 6)(x - 7) = -40$

d)  $x^2 - 4x = 3x - 10$

e)  $x = 3x^2 - 10$

f)  $x^2 - x = 18 - 4x$