

## Quadratic Equations: Factoring

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

Due: \_\_\_\_\_

**Solve each equation by factoring. Check your answers.**

1.  $x^2 - 2x - 24 = 0$

2.  $3x^2 = x + 4$

3.  $x^2 - 6x + 9 = 0$

4.  $3x^2 + 45 = 24x$

5.  $4x^2 + 6x = 0$

6.  $7x^2 = 21x$

7.  $(x + 2)^2 = 49$

8.  $x + 3 = 24x^2$

**9.** A woman drops a front door key to her husband from their apartment window several stories above the ground. The function  $h = -16t^2 + 64$  gives the height  $h$  of the key in feet,  $t$  seconds after she releases it.

**a.** How long does it take the key to reach the ground?

**b.** What are the reasonable domain and range for the function  $h$ ?

**10.**  $x^2 - 5x - 12 = 0$

**11.**  $x^2 + 10x + 17 = 0$

**12.**  $4x^2 + 1 = 8x$

**13.**  $5x^2 - 2x - 7 = 0$

**14.**  $25x^2 + 20x + 4 = 0$

**15.**  $3x^2 = 4x + 32$