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

# WS 10-3

# Solving Quadratic Equations by the Quadratic Formula

1. What is the Quadratic Formula?
2. In order to use the Quadratic Formula, what form must the equation be in?

**Solve using the Quadratic Formula. Write the answer in exact form and approximate form. Round to the nearest hundredth.**

1. $x^{2}+7x-8=0$ 4. $x^{2}-2x+15=0$

5. $2x^{2}+4x+2=0$ 6. $4x^{2}+4x+1=0$

7. $7x^{2}+8x+1=0$ 8. $-6x^{2}-3x+2=0$

**Use a vertical motion model to find out how long it will take for the object to reach the ground.**

9. You drop a ball from a window 40 feet above ground to your friend below. You friend does not catch the ball. How long will it take for the ball to hit the ground?

10. A juggler throws a ball upward with an initial height of 5 feet at an initial speed of 40 feet per second. How long will it take for the ball to fall to the ground?

11. A hawk dives toward a snake. When the hawk is at a height of 200 feet the snake sees the hawk, which is diving at 105 feet per second. How long does the snake have to escape?