

## Quadratic Formula

Name: \_\_\_\_\_

Use the discriminant to find the number and type of solution for each quadratic equation.

1)  $f(x) = 3x^2 - 10x + 3$

2)  $g(x) = x^2 + 6x$

3)  $h(x) = x^2 - 2x + 9$

Solve the following problems using the quadratic formula.

4)  $f(x) = 2x^2 - 7x - 8$

5)  $r(x) = x^2 + x + 1$

6)  $f(x) = x^2 + 6x + 9$

7) A rock is dropped on the surface of Mars from a height of 100 feet. The height of a falling rock as a function of time since it was dropped on Mars can be modeled by the equation:  $h(t) = -6.5t^2 + 100$ . How long does it take for the rock to hit the surface of Mars?

8) A ball is thrown upward from a height of 15 ft. with an initial upward velocity of 5 ft/s. The equation  $h(t) = -16t^2 + 5t + 15$  can be used to model the path of the ball. How long will it take the ball to hit the ground?