Honors Math II   Name_____
After 4.1-4.9 Test Part 1   Period_____Date_____

No Calculator

1. **Solve for x three times**: by factoring completely, by completing the square, and by the quadratic formula.

$12x^2 + 24x + 9 = 0$

Factoring	Completing the Square	Quadratic Formula

2. A bottle rocket is shot from a bridge into the lake below. The height of the rocket is modeled by $h(t) = -16t^2 + 96t + 112$ where t represents time in seconds and h is the height above the water.

a. What is the height of the rocket after 2 seconds?

b. What is the maximum height reached by the rocket?

c. How long does it take to reach its maximum height?

d. How long will it take for the rocket to hit 87 feet?

e. When will the rocket hit the lake?