**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Factoring and Solving Quadratic Equations**

**Factor each polynomial, and then find the solutions assuming each is equal to zero. Show your work. (10 problems)**

1. Factors: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Zeros: \_\_\_\_\_\_\_\_
2. Factors: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Zeros: \_\_\_\_\_\_\_\_
3. Factors: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Zeros: \_\_\_\_\_\_\_\_
4. Factors: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Zeros: \_\_\_\_\_\_\_\_
5. Factors: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Zeros: \_\_\_\_\_\_\_\_
6. Factors: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Zeros: \_\_\_\_\_\_\_\_
7. Factors: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Zeros: \_\_\_\_\_\_\_\_
8. Factors: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Zeros: \_\_\_\_\_\_\_\_
9. Factors: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Zeros: \_\_\_\_\_\_\_\_
10. Factors: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Zeros: \_\_\_\_\_\_\_\_
11. Factors: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Zeros: \_\_\_\_\_\_\_\_

**Use the problem below to answer the question.**

Jason jumped off of a cliff into the ocean in Acapulco while vacationing with some friends. His height as a function of time could be modeled by the function

, where t is the time in seconds and h is the height in feet.

1. How high was Jason after 3 seconds?
2. How high was Jason after 6 seconds?
3. How high was Jason before his jump?
4. Find the vertex of the given equation.
5. What does the vertex mean in the context of the problem?