Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period:\_\_\_\_\_\_\_\_\_\_\_\_

1. An object is launched into the air. The object’s height *(d)* in feet with respect to time *(t)* in seconds, can be modeled by the quadratic function,
   1. How many seconds does it take for the rocket to hit the ground? Justify your answer mathematically.
   2. What is the maximum height reached by the object? When is the maximum height reached? Justify your answer.
   3. What does the constant term, 80, tell you about the object? How would this information be represented on a graph of the equation?
2. An object is launched into the air. The object’s height *(d)* in feet with respect to time *(t)* in seconds, can be modeled by the quadratic function,
   1. How many seconds does it take for the rocket to hit the ground? Justify your answer mathematically.
   2. What is the maximum height reached by the object? When is the maximum height reached? Justify your answer.
   3. What does the constant term, 160, tell you about the object? How would this information be represented on a graph of the equation?