

Quiz 123

1. $h(t) = -16t^2 + 128t$

A ball is shot vertically upward from ground level with an initial speed of 128 feet per second. The function above models its height h , in feet, after t seconds. When does the ball reach its maximum height?

2. $h(t) = -16t^2 + 144$

A ball is dropped from a height of 144 feet. The function above models its height h , in feet, after t seconds. When will the ball hit the ground?

3. $h(t) = -16t^2 + 64t + 80$

A ball is thrown straight up from a height of 80 feet with an initial speed of 64 feet per second. The function above models its height h , in feet, after t seconds. When will the ball be at a height of 80 feet again?

4. $h(t) = -16t^2 + 32t + 240$

A ball is thrown straight up from a height of 240 feet with an initial speed of 32 feet per second. The function above models its height h , in feet, after t seconds. What is the maximum height reached by the ball?

5. $c(x) = 0.2x^2 - 8x + 90$

The cost for producing a certain part is modeled by the function above, where x is the number of parts produced a day. For what number of parts is the cost minimized? (*Hint*: Find the x -value of the vertex of the parabola.)