

Math 98 Worksheet #7

July 26, 2007

1. Walking along the edge of a cliff 64 feet high, you notice a cannon loaded with a cannonball. Feeling rebellious and seeing that there is no one in the area below, you decide to fire the cannonball. Knowing some physics, you find that the height (in feet) of the cannonball above the ground at a given time t (in seconds) is modeled by the function $s(t) = -16t^2 + 32t + 64$.

(a) How high above the ground is the cannonball after 1 second?

(b) At what time(s) is the cannonball 64 feet above the ground?

2. Graph the following quadratic functions. State the vertex, axis of symmetry, domain, and range.

(a) $f(x) = 3x^2$

(b) $g(x) = -(x + 4)^2$

(c) $h(x) = (x - 3)^2 + 5$

(d) $F(x) = -2x^2 - 1$