Quiz 2.2 – Analyzing Quadratic Functions

1. **(1 point) —alfredLibrary/AUCI/chapter2/lesson2/quiz/question4pet.pg—**
Use the quadratic formula to solve the quadratic equation

$$2x^2 - 5x - 6 = 0$$

Solutions (separate by commas): $x =$ _____

2. **(1 point) —alfredLibrary/AUCI/chapter2/lesson2/quiz/question13pet.pg—**
NASA launches a rocket at $t = 0$ seconds. Its height, in meters above sea-level, as a function of time is given by $h(t) = -4.9t^2 + 322t + 297$.

(a) How high above sea level is the launch pad? (HINT: Find the y-intercept.)

Launch pad is _____ meters above sea level.

(b) What is the maximum height of the rocket above sea level? (HINT: Find the vertex.)

Maximum height is _____ meters above sea level.

(c) Assuming that the rocket will splash down into the ocean, at what time does splashdown occur? (HINT: Find a t-intercept.)

Splashdown occurs at _____ seconds.

3. **(1 point) —alfredLibrary/AUCI/chapter2/lesson2/quad3p.pg—**
Suppose that a particle in rectilinear motion moves according to the function $s(t) = t^2 - 7t + 35$, where s is in meters and t is in seconds.

(a) Find the velocity function at time t.

$v(t) =$ _____ meters per second

(b) What is the velocity after 3 seconds?

$v(3) =$ _____ meters per second

(c) Find all values of t for which the particle is at rest. (If there are no such values, enter 0. If there are more than one value, list them separated by commas.)

$t =$ _____ seconds

(d) Use interval notation to indicate when the particle is moving in the positive direction. Enter inf for ∞, or enter -inf for $-\infty$. (If the particle is never moving in the positive direction, enter .)

Moving in positive direction on the interval _____