1. A rocket is launched from atop a 112 foot cliff with an initial velocity of 96ft/s. Using the vertical motion formula h(t) = -16t² + 96t + 112 , find out how long the rocket will take to hit the ground after it is launched.

a. Find out how long the rocket will take to hit the ground after it is launched.

b. Find out how long the rocket will take to reach its maximum height.

c. What is the rocket’s maximum height?

d. What is the starting height of the object?

2. The function h(t) = -5t2+ 20t + 60 models the approximate height of an object t seconds after it is launched.

a. Find out how long the rocket will take to hit the ground after it is launched.

b. Find out how long the rocket will take to reach its maximum height.

c. What is the rocket’s maximum height?

d. What is the starting height of the object?

3. Given the equation h(t) = –2t2 – 12t + 14, where h is the number of feet after t seconds.

a. Find out how long the rocket will take to hit the ground after it is launched.

b. Find out how long the rocket will take to reach its maximum height.

c. What is the rocket’s maximum height?

d. What is the starting height of the object?

4. The function h(t) = -16t2+ 64t + 80 models the approximate height of an object t seconds after it is launched. How many seconds does it take the object to reach its maximum height?

a. Find out how long the rocket will take to hit the ground after it is launched.

b. Find out how long the rocket will take to reach its maximum height.

c. What is the rocket’s maximum height?

d. What is the starting height of the object?