

A ball is thrown upward and outward from a height of 7 feet. The height of the ball, $f(x)$, in feet, can be modeled by

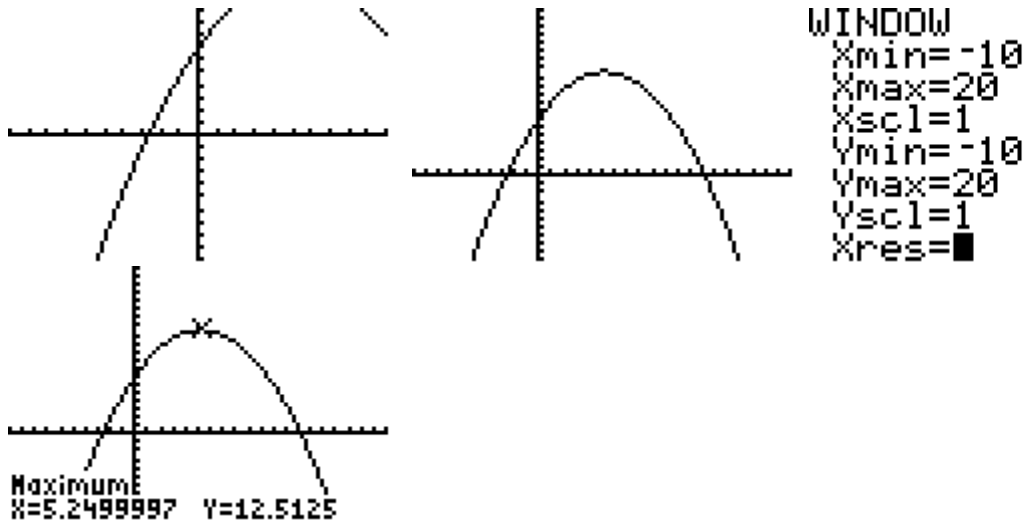
$$f(x) = -0.2x^2 + 2.1x + 7$$

where x is the ball's horizontal distance, in feet, from where it was thrown. Use this model to solve parts (a) through (c).

a. What is the maximum height of the ball and how far from where it was thrown does this occur?

The maximum height is feet, which occurs feet from the point of release.

(Round to the nearest tenth as needed.)

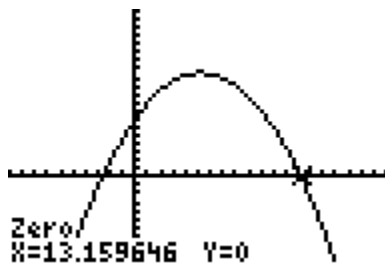


2nd calc max left bnd, rt bound, guess

Max height 12.5 ft 5.2 ft from the release (mml did not like my 5.2 ans. They wanted 5.3 rounding issues in calc.)

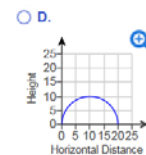
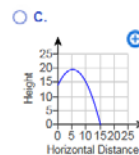
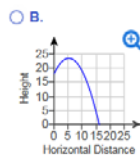
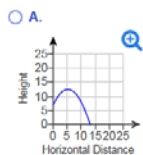
b. How far does the ball travel horizontally before hitting the ground?

(x intercept)



2nd calc zero lft bound, rt bound, guess 13.2

c. Graph the function that models the ball's parabolic path. Choose the correct graph below.



A