

# Graphing Quadratic Functions Using The Graphing Calculator

1. a) Graph the function  $f(x) = -x^2 + 5x + 6$  for  $0 \leq x \leq 7$ .
- b) At what value of  $x$  does  $f(x)$  reach its maximum value?
- c) What is the maximum value of  $f(x)$ ?



2. A baseball player throws a ball from the outfield toward home plate. The ball's height above the ground is modeled by the equation  $y = -16x^2 + 48x + 6$ , where  $y$  represents height, in feet, and  $x$  represents time, in seconds. The ball is initially thrown from a height of 6 feet.

- a) Sketch the graph of this function on the accompanying grid.
- b) After how many seconds does the ball reach its maximum height?
- c) What is the maximum height, in feet, that the ball reaches?
- d) How long does it take for the ball to reach the ground?
- e) How many seconds after the ball is thrown will it again be 6 feet above the ground?

