

66. The table shows the relation between the speed of a car and its stopping distance.

Speed (mi/h)	35	45	50	60
Stopping Distance (ft)	96	140	165	221

- Use a quadratic function to model the data.
- Predict the stopping distance for a car traveling at 65 mi/h.

68. Marnie throws a softball straight up into the air. The ball leaves her hand when it is exactly 5 ft from the ground. The height h of the ball, in feet, can be written as a function of time t , in seconds, as $h = -16t^2 + 40t + 5$.

- What is the maximum height the ball reaches?
- Marnie catches the ball 5 ft from the ground. How long was the ball in the air?

71. The expression $P(x) = 2500x - 2x^2$ describes the profit of a company that customizes bulldozers when it customizes x bulldozers in a month.
- How many bulldozers per month must the company customize to make the maximum possible profit? What is the maximum profit?
 - Describe a reasonable domain and range for the function $P(x)$.
 - For what number of bulldozers per month is the profit at least \$750,000?

75. An archer's arrow follows a parabolic path. The path of the arrow can be described by the equation $y = -0.005x^2 + 2x + 5$.

- Describe the meaning of the y-intercept of the graph of the equation.
- What is the horizontal distance the arrow travels before it hits the ground? Round your answer to the nearest foot.