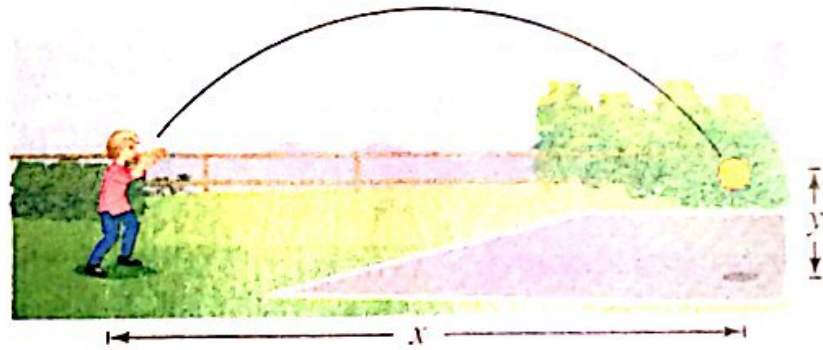


- 63. Height of a Ball** The height y (in feet) of a ball thrown by a child is given by

$$y = -\frac{1}{12}x^2 + 2x + 4$$

where x is the horizontal distance (in feet) from where the ball is thrown (see figure).



- Use a graphing utility to graph the path of the ball.
 - How high is the ball when it leaves the child's hand? (*Hint:* Find y when $x = 0$.)
 - What is the maximum height of the ball?
 - How far from the child does the ball strike the ground?
- 64. Path of a Diver** The path of a diver is given by

$$y = -\frac{4}{9}x^2 + \frac{24}{9}x + 12$$

where y is the height (in feet) and x is the horizontal distance (in feet) from the end of the diving board (see figure). What is the maximum height of the diver? Verify your answer using a graphing utility.

