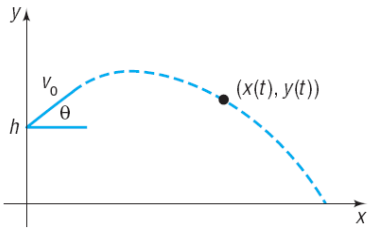
Parametric Equation-Projectile Motion

Formulas

New Vocabulary

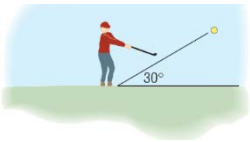
Projectile Motion



$x(t) =$

$y(t) =$

Suppose that Jim hit a golf ball with an initial velocity of 150 feet per second at an angle of 30° to the horizontal.



(a) Find the parametric equations that describe the position of the ball as a function of time.

(b) To determine the length of time that the ball was in the air, solve the equation $y = 0$.

(c) Determine the maximum height of the ball.

(d) What was the horizontal distance that the ball traveled while in the air?

SUMMARY