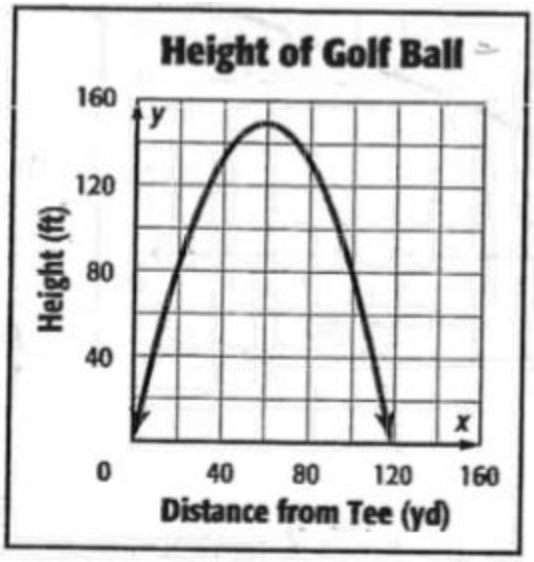
Exit Ticket Day 1



Check out the projectile motion for the golf ball. Assume it was hit at a 60 degree angle.

1. List three different ways you could make the golf ball go farther if you could hit it again.

increase the initial height (hit the golf ball off of a platform instead the ground)

increase the initial speed (hit the golf ball harder)

decrease the launch angle closer to 45° but not below that

2. Answer the following questions about the graph.

a. Identify the x-intercept(s) on the graph. Estimate the coordinates. Describe what information the x-intercept(s) give you about the scenario.

Identification: See screenshot key below.
Coordinates: (0 yd , 0 ft) and (120 yd , 0 ft)
Meaning: The first x-intercept tells you that the golf ball is 0 yd away from the starting point before it has been hit. The second x-intercept tells you that it landed 120 yd away from the starting point.

b. Identify the y-intercept(s) on the graph. Estimate the coordinates. Describe what information the y-intercept(s) give you about the scenario.

Identification: See screenshot key below.
Coordinates: (0 yd, 0 ft)

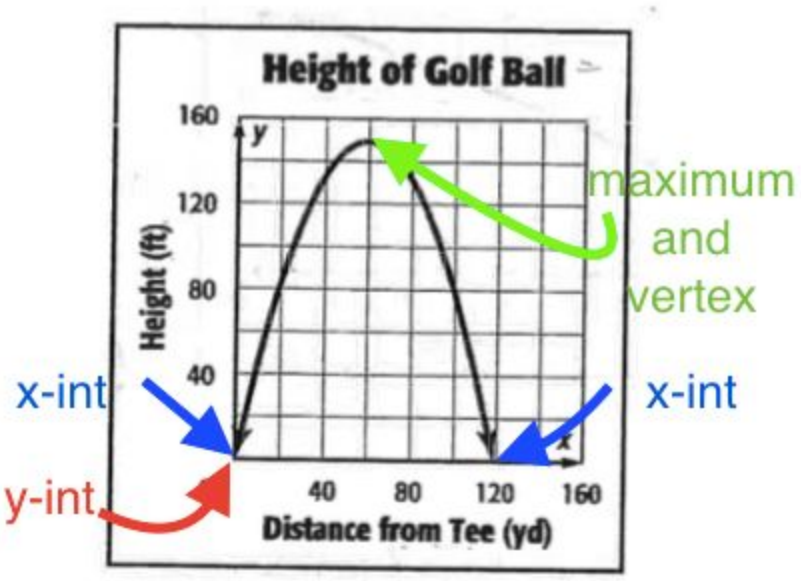
Meaning: The y-intercept says that the golf ball had an initial height of 0 m. It started on the ground.

c. Identify the vertex on the graph and write its coordinates. Describe what information the vertex gives you about the scenario.

Identification: See screenshot key below.

Coordinates: (60 yd , 150 ft)

Meaning: The golf ball reaches its maximum height of 150 ft when it has traveled 60 yd from the tee.



BONUS: There are arrows on the ends of the trajectory. If you were graphing the trajectory, would you use arrow, too? Why or why not?

I wouldn't use arrows because arrows indicate that the trajectory continues infinitely. The golf ball won't travel backwards from the starting point if you hit it forward and it can't go below the ground. Therefore, the physical nature of the scenario restricts the graph to the first quadrant.