

Name:

ANSWERS!

Class:



Communication



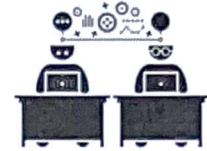
Successful Partnership



Encouragement



Solving Problem Together



Collaboration

For each of the below, sketch a graph of the function and label the graph with the features listed.

Question 01

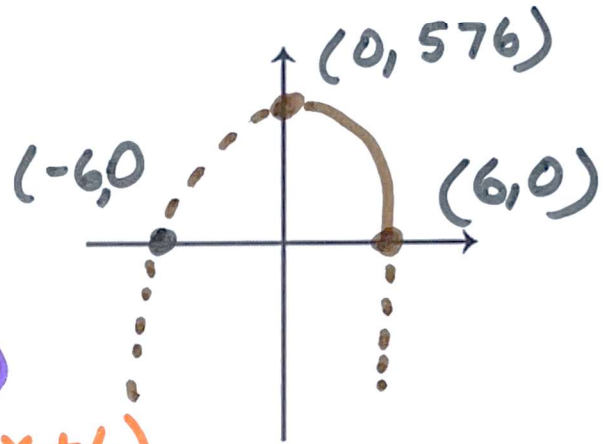
A package is dropped from a helicopter.

The height of the package can be modeled by the function below where y is height in feet and x is seconds after the release.

$$y = -16x^2 + 576$$

$$y = -16(x^2 - 36)$$

$$y = -16(x - 6)(x + 6)$$



Factored Form:

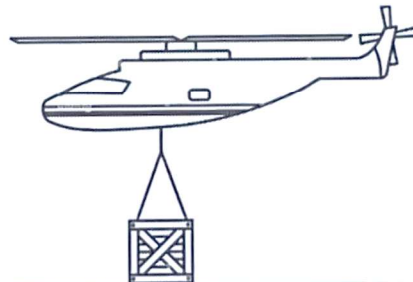
Domain: $0 \leq x \leq 6$ Root: $(6, 0)$
Line of Symmetry: $x = 0$ Vertex: $(0, 576)$ y-intercept: $(0, 576)$

At what elevation was the package dropped?

576 feet

How long did it take to hit the ground?

6 seconds



Question 02

A package is dropped from a helicopter.

The height of the package can be modeled by the function below where y is height in feet and x is seconds after the release.

$$y = -16x^2 + 400$$

$$y = -16(x^2 - 25)$$

$$y = -16(x - 5)(x + 5)$$

Factored Form:

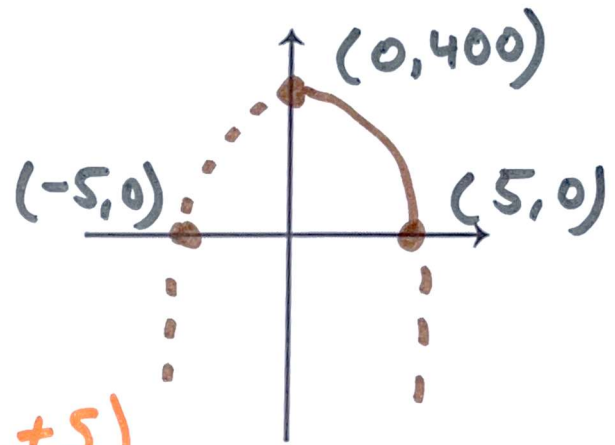
Domain: $0 \leq x \leq 5$

Root: $(5, 0)$

Line of Symmetry: $x = 0$

Vertex: $(0, 400)$

y-intercept: $(0, 400)$



At what elevation was the package dropped?

400 feet

How long did it take to hit the ground?

5 seconds

Question 03

A package is dropped from a helicopter.

The height of the package can be modeled by the function below where y is height in feet and x is seconds after the release.

$$y = -16x^2 + 324$$

$$y = -16(x^2 - 20.25)$$

$$y = -16(x - 4.5)(x + 4.5)$$

Factored Form:

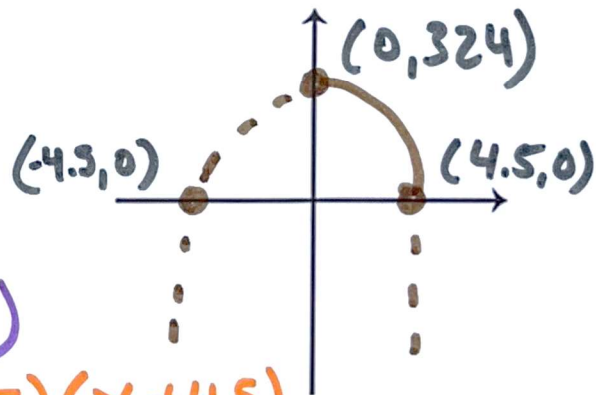
Domain: $0 \leq x \leq 4.5$

Root: $(4.5, 0)$

Line of Symmetry: $x = 0$

Vertex: $(0, 324)$

y-intercept: $(0, 324)$



At what elevation was the package dropped?

324 Feet

How long did it take to hit the ground?

4.5 seconds