NAME_____DATE_____PER._____

APPLICATIONS OF QUADRATIC FUNCTIONS – DAY 1

1. Quinn, Gladys, and Bob went outside to launch model rockets. Each person in the group chooses one rocket to analyze. Answer the following questions for Quinn's rocket.

a) From what height was Quinn's rocket launched?

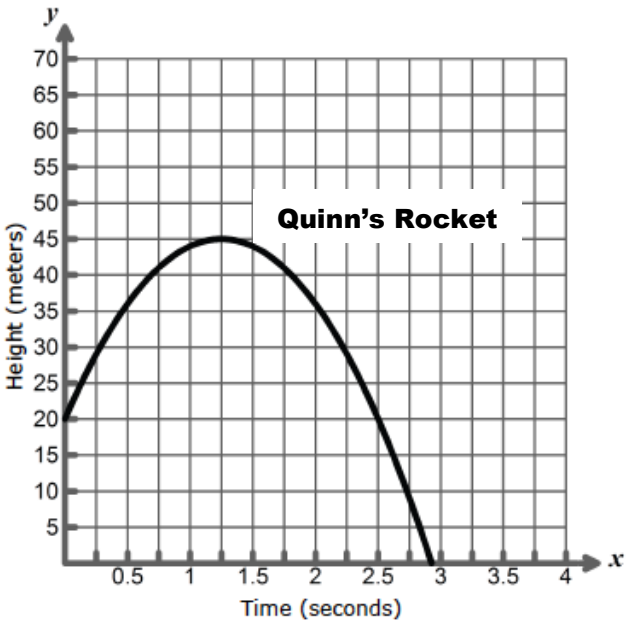
b) When did the rocket hit the ground?

c) When did it reach its greatest height?

d) What was its greatest height?

e) How many seconds was Quinn's rocket in the air?

f) For approximately how many seconds was the rocket 30 meters or higher?



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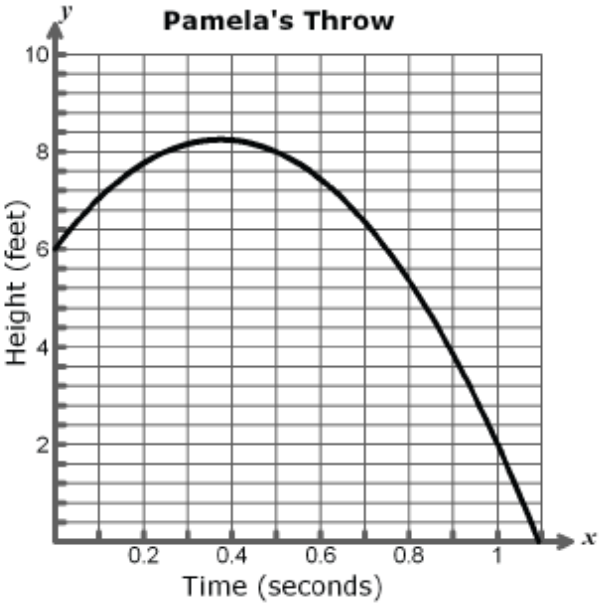
2. Pamela is throwing a tennis ball that was hit out of the court. The graph represents the height of the tennis ball versus time.

a) The tennis ball was thrown from a height of _____ feet.

b) When did the ball hit its maximum height?

c) What was its maximum height?

d) When did it hit the ground?

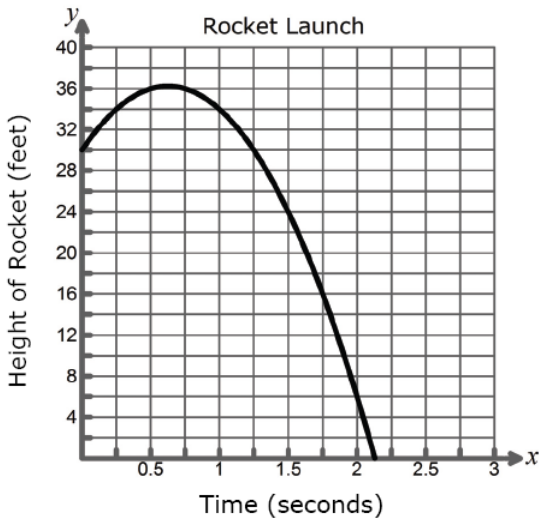


e) When was it at a height of 2 feet above the ground?

f) What is the independent variable?

g) What is the dependent variable?

_____**3. The graph below represents the height of a rocket that is launched from the top of a building. Which statement best describes the path of the rocket?**



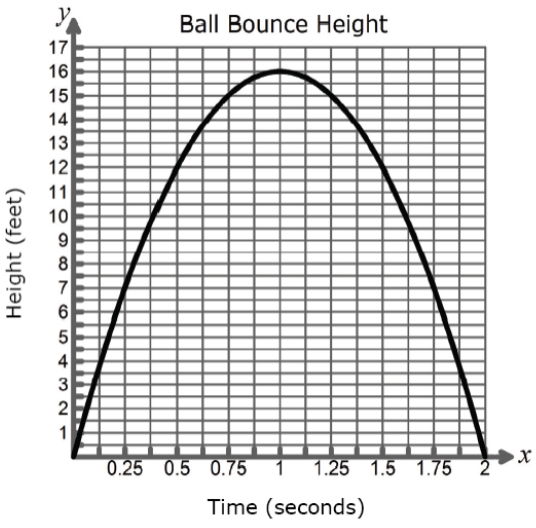
A The rocket reached the ground between 2.25 seconds and 2.5 seconds.

B The rocket was below 34 feet between 0.25 seconds and 1 second.

C The rocket reached its maximum between 1 second and 1.25 seconds.

D The rocket descended 8 feet between 1.5 seconds and 1.75 seconds.

_____**4. The graph below shows the height of a ball versus time for one bounce. For how many seconds was the ball at a height of 7 feet or more above the ground?**



A 0.25 seconds

B 1 seconds

C 1.5 seconds

D 1.75 seconds

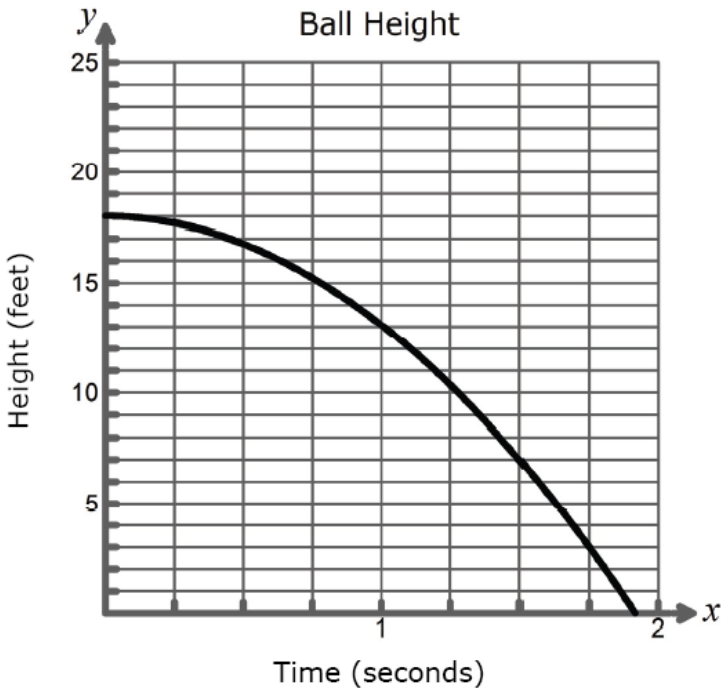
_____5. Which statement best describes the graph below?

A The ball was dropped from a height of 18 feet and then reached a maximum height of 20 feet before reaching the ground.

B The ball was thrown from the ground and then reached a height of 18 feet before landing again in just under 2 seconds.

C The ball was dropped from a height of 18 feet and then descended for just under 2 seconds before it hit the ground.

D The ball was thrown from a height of 2 feet and then descended for 18 seconds before hitting the ground.



REVIEW.

6. For their season opener, the freshman basketball team sold 90 tickets for a total of $334. Adult tickets for the game cost $5 and student tickets cost $3. How many adult tickets were sold?

7. The area, A, of a parallelogram is $30x^{12}y^{9}$ square feet. The height, h, of the parallelogram is $5x^{5}y^{2}$. The area of a parallelogram can be found by using the formula A = bh. Find the length of this parallelogram's base, b.