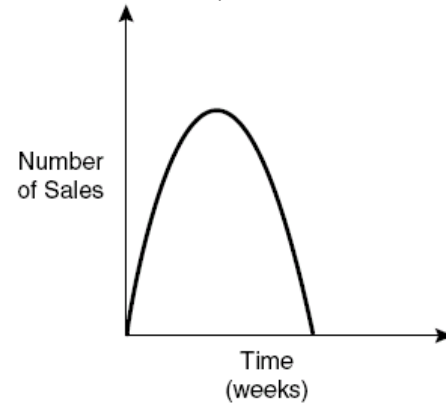


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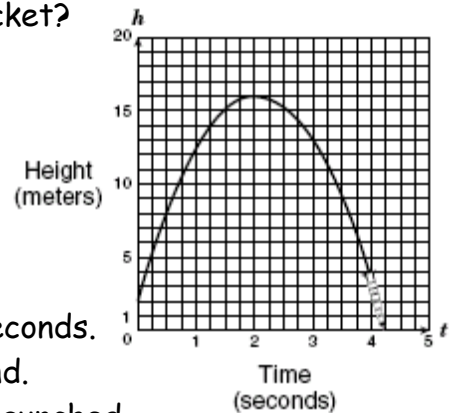
Reporting Category 5 (A.9.D.)

1. The sales record for a recent hit CD at Tony's Music Store is shown on the graph below. Which statement best describes the sales of this CD?



- A Sales rapidly increased, reached a peak, and then gradually decreased.
- B Sales gradually increased, reached a peak, and then leveled off.
- C Sales rapidly increased, reached a peak, and then rapidly decreased.
- D Sales remained constant throughout the time period.

2. The graph below shows h , the height in meters of a model rocket, versus t , the time in seconds after the rocket is launched. From the graph, what conclusion can be made about the flight of the rocket?



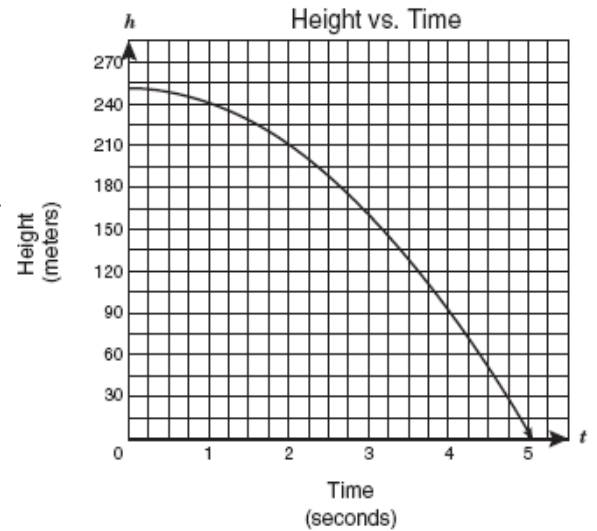
- A The rocket reached its maximum height after 2.5 seconds.
- B At 0 seconds the rocket was 2 meters off the ground.
- C The height of the rocket was 0 meters when it was launched.
- D The rocket was in flight for 5 seconds.

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3. An object was dropped from a height of 250 meters and fell to the ground. The graph below shows the change in h , the object's height in meters, with respect to t , the time in seconds.

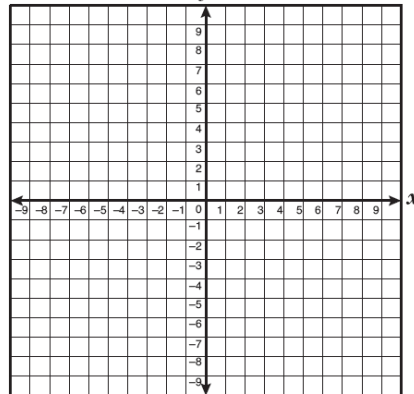


According to the graph, which time interval best represents when the object was at 140 meters above the ground?

- F Between 3 seconds and 3.25 seconds
- G Between 3.75 seconds and 4 seconds
- H Between 3.5 seconds and 3.75 seconds
- J Between 3.25 seconds and 3.5 seconds

4. Which of the following is the vertex of the graph of $y = 3x^2 - 8x + 4$?

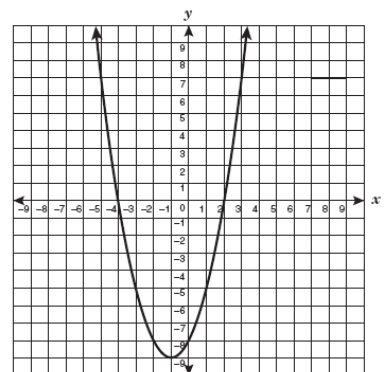
- A $\left(\frac{4}{3}, -\frac{4}{3}\right)$
- B $\left(\frac{1}{2}, 0\right)$
- C $(0, 4)$
- D $\left(\frac{2}{3}, 2\right)$



5. The graph of $y = x^2 + 2x - 8$ is shown below.

Which coordinate pair best represents the vertex of this graph?

- F $(-4, 0)$
- G $(2, 0)$
- H $(0, -8)$
- J $(-1, -9)$

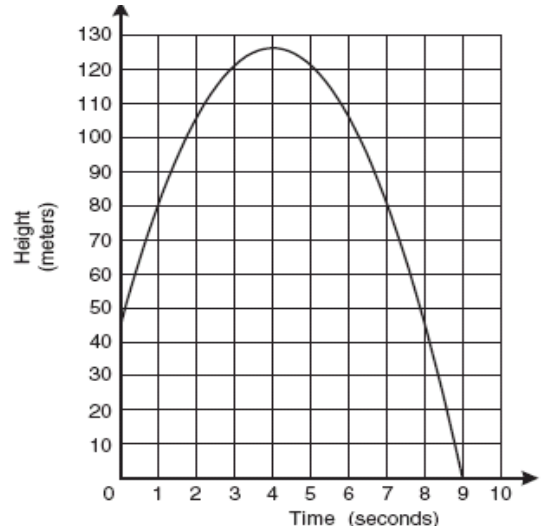


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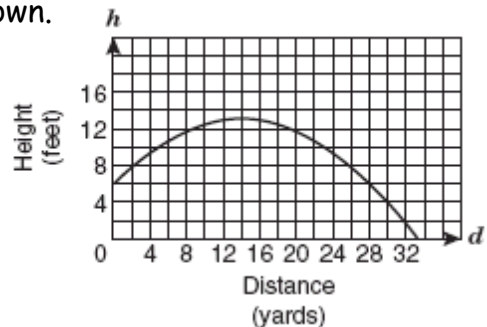
6. The graph below shows the height of a baseball from the time it is thrown from the top of a building to the time it hits the ground.



How much time elapses while the baseball is 80 meters or more above the ground?

- F 1 sec
- G 9 sec
- H 7 sec
- J 6 sec

7. The graph represents the relationship between the height of a ball and the distance it traveled after the ball was thrown.



What conclusion can be drawn from the graph about this relationship?

- A The ball reached a maximum height of about 16 feet after traveling a horizontal distance of approximately 33 yards.
- B The ball reached a maximum height of about 13 feet after traveling a horizontal distance of approximately 14 yards.
- C The ball was thrown from a height of approximately 6 feet above the ground and traveled a horizontal distance of approximately 20 yards before it reached its maximum height.
- D The ball was thrown from a height of approximately 7 feet above the ground and traveled a horizontal distance of approximately 10 yards before it reached its maximum height.

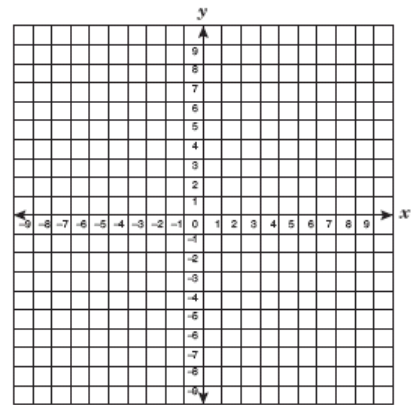
Name _____

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Reporting Category 5 (A.9.D.)

8. Which of the following is the vertex of the graph of the equation $y = -x^2 + 2x + 3$?

- A (0, 3)
- B (-1, 0)
- C (1, 4)
- D (3, 0)



9. Look at the equations shown below.

$$y = \frac{4}{5}x^2 + 3, y = \frac{4}{5}x^2, y = \frac{4}{5}x^2 - 5, y = \frac{4}{5}x^2 + \frac{3}{5}$$

Which of the following statements is true for the graphs of all the equations given?

- A The graphs are congruent and open downward.
- B The graphs open upward and are symmetrical about the y-axis.
- C The graphs are congruent and are listed from narrowest to widest.
- D The graphs open downward and are symmetrical about the y-axis.

10. Which inequality describes the value of a in the graph of $y = ax^2 + bx + c$ if this equation models the height of the section of the roller coaster shown below?

- A $-1 < a < 0$
- B $a < -1$
- C $a > 0$
- D $a < 0$

