

Functions 3 – Graphs in Context (Details)

Identify Key Information from a Graph

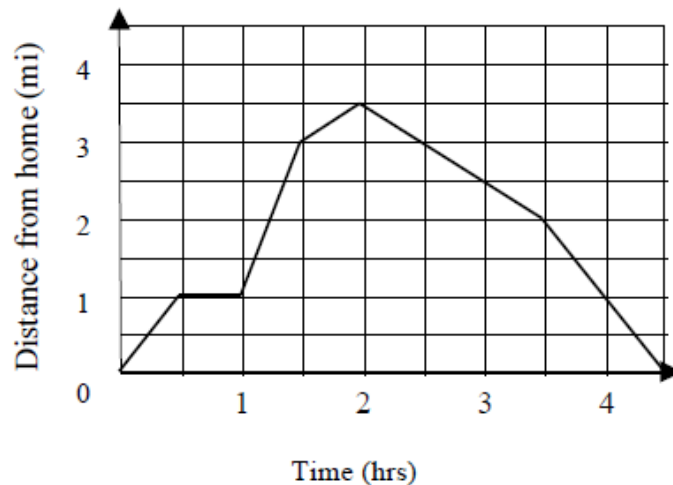
Name _____

Per _____ Date _____

Learning Target(s):

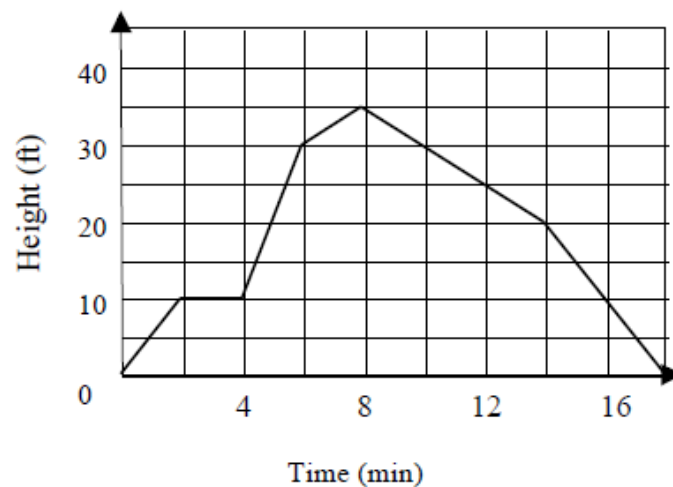
Use the graphs to answer the questions to the right.

- 1) The following graph shows Jasmine's distance from home as she sets out at noon walking to meet a friend.



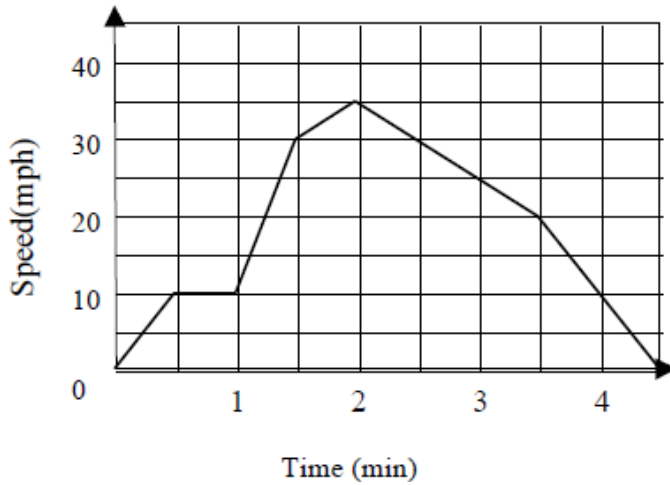
- Where was Jasmine at noon?
- When was Jasmine farthest from home?
- What is the farthest Jasmine traveled from home?
- Approximately when was Jasmine 3 miles from home?
- When did Jasmine return home?
- Describe what Jasmine might be doing between 12:30 and 1:00pm.
- When is Jasmine moving the fastest? How do you know?

- 2) The following graph shows Keoni's height above the ground in feet as he climbs a tree trying to rescue his cat.



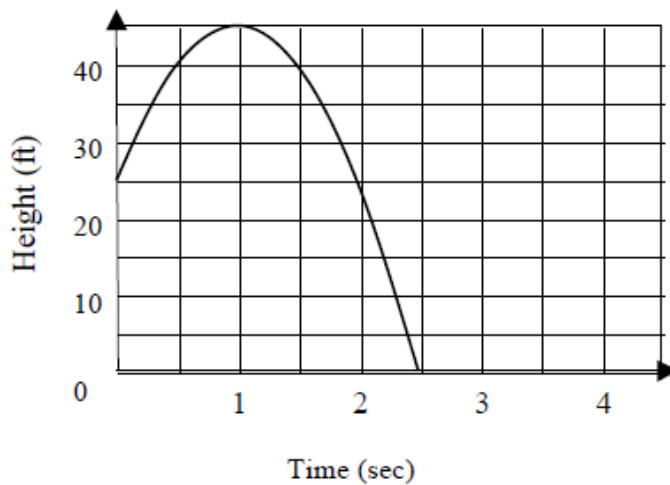
- How high did Keoni climb?
- When did Keoni reach his maximum height?
- When was Keoni 20 feet above the ground?
- Over what time interval(s) was Keoni climbing up the tree?
- What changed in Keoni's climbing during times 6 – 8 as compared to time 4 – 6?
- What was Keoni doing between times 2 and 4?
- When 18 minutes had passed, where was Keoni?

3) The following graph shows Leilani's speed in miles/hour while driving from her house to the store.



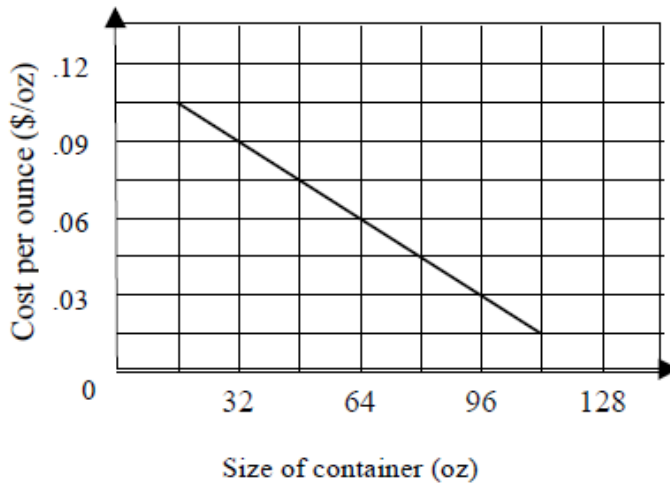
- When did Leilani reach her maximum speed?
- What was Leilani's maximum speed?
- How fast was Leilani driving 3 minutes into her trip?
- When was Leilani traveling at 30 mph?
- How long did it take Leilani to get to the store?
- Was Leilani ever traveling at a steady speed? When? How fast was she going?
- Over what time interval(s) was Leilani accelerating?

4) George tosses a ball upward from a rooftop. The following graph shows the height of the ball, in feet, t seconds after he released it.



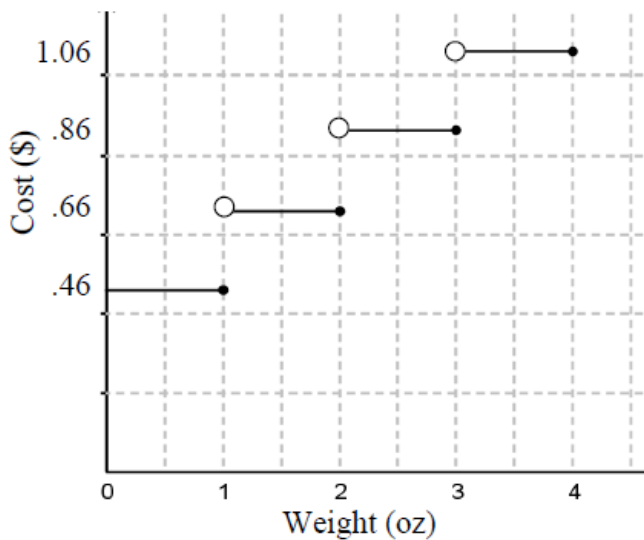
- What was the initial height of the ball?
- When did the ball reach its maximum height?
- What was the maximum height of the ball?
- Did the ball land on the rooftop? Explain.
- Approximately when was the ball 40 feet above the ground?
- Approximately when did the ball go past George on its way down?
- When did the ball hit the ground?

5) The graph below shows the cost per ounce, in dollars, for orange juice versus the size of the container in which the orange juice is sold.



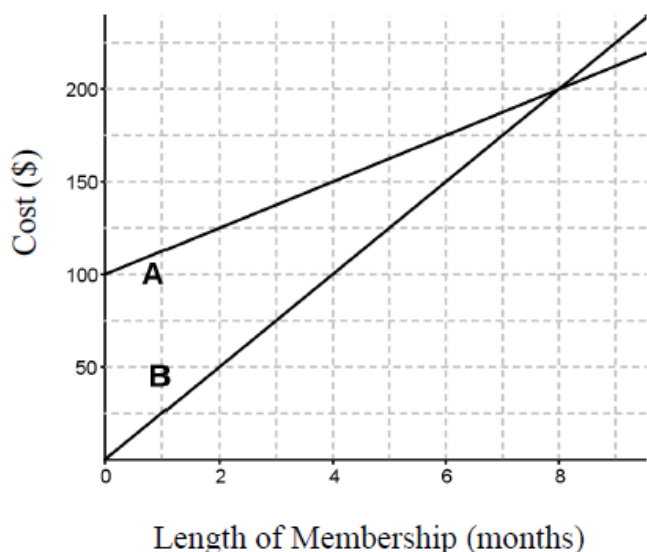
- What is the price per ounce of buying a 32oz container of orange juice?
- What is the price per ounce of buying a 64 oz container of orange juice?
- If the cost per ounce is \$.03, how large is the container?
- Why does it make sense for this graph to have a negative slope?
- Which is more expensive, a 32 oz container or a 96 oz container?

6) The following graph shows the cost (in 2013) of mailing a letter as a function of the weight of the letter in ounces.



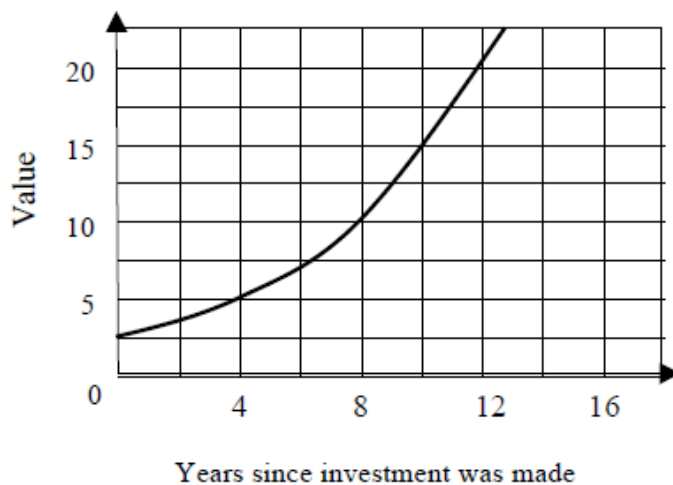
- What is the minimum cost of mailing a letter?
- How much will it cost to mail a letter that weighs 2.5 oz?
- How much will it cost to mail a letter that weighs 3 oz?
- What is the range of letter weights that cost \$.66 to mail?
- What is the range of letter weights that cost \$.86 to mail?

7) The following graph shows the cost of a gym membership at 2 different gyms as a function of the length of the membership.



- What is the fee to join Gym A?
- What is the fee to join Gym B?
- Which gym should you choose if you only plan to remain a member for 2 months? Why?
- Which gym should you join if you plan to be a member for at least a year?
- After how many months is the cost of both gym memberships the same?
- Which gym has a higher monthly rate? How can you tell?

8) Jordan invests some money in 2010. The following graph predicts the value of the investment in thousands of dollars since Jordan invested.



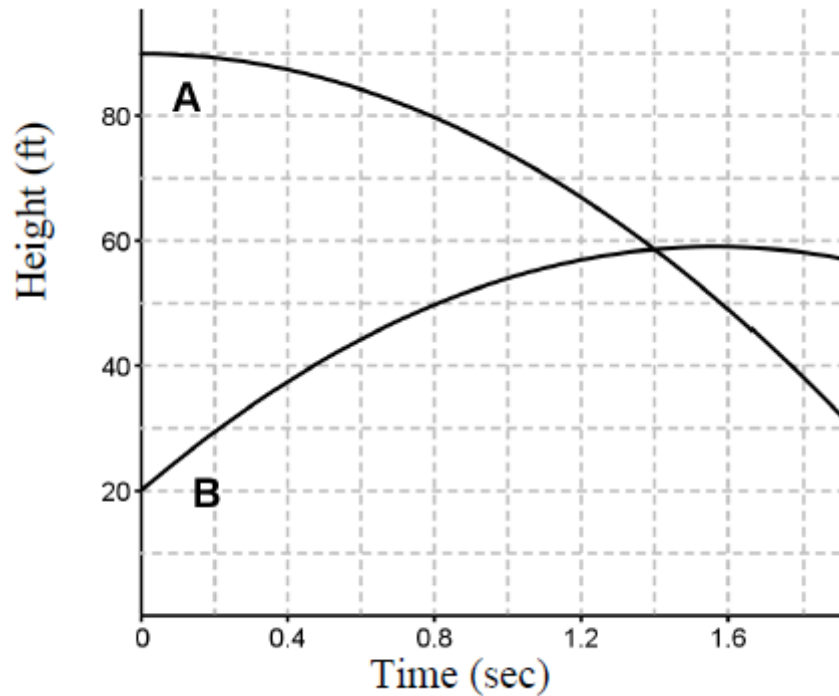
- How much did Jordan invest?
- What is the value of Jordan's investment after 8 years?
- What is the value of Jordan's investment after 12 years?
- How many years does it take for Jordan's investment to be worth \$5,000?
- How many years does it take for Jordan's investment to be worth \$10,000?
- Is Jordan a boy or a girl?

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EXIT PASS:

Object A is dropped from the rooftop of a building. At the same time, Object B is thrown upward by someone leaning out of a window in the same building. The graph below shows the height of each object over time.



- a) How high is the rooftop? How do you know?

- b) How high is the window? How do you know?

- c) Object B is how much higher than object A when object A is 50 ft above the ground?

- d) Approximately when are the 2 objects the same height above the ground for the first time? How do you know?