

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

Sec 1H Unit 5 Day 2 - Graphing Functions Classwork

1. Sketch a possible graph showing the amount of gas in a car's gas tank over time for this story:

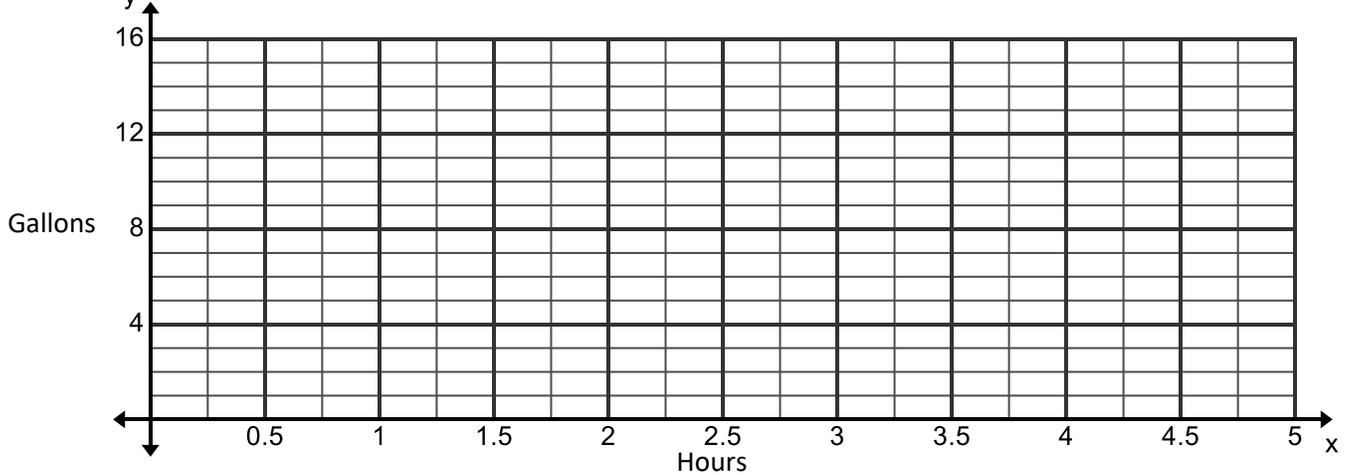
Jackson delivers pizza for his part time job. On Friday he started with a full tank of gas (16 gallons.) His first delivery was 30 minutes away and the traffic was bad, so he used 1.5 gallons to get there, and another 1.5 to get back.

During the next hour, he made several quick deliveries close to the pizza shop and used 1 gallon of gas. Then he took a lunch break for 30 minutes.

His next delivery was just around the corner from the pizza shop, but it was on the 15<sup>th</sup> floor of an apartment building with a broken elevator. Jackson left his car running while he climbed the stairs to deliver the pizza. It took him an hour to get back to the car, and it used 0.25 gallons of gas while he was gone.

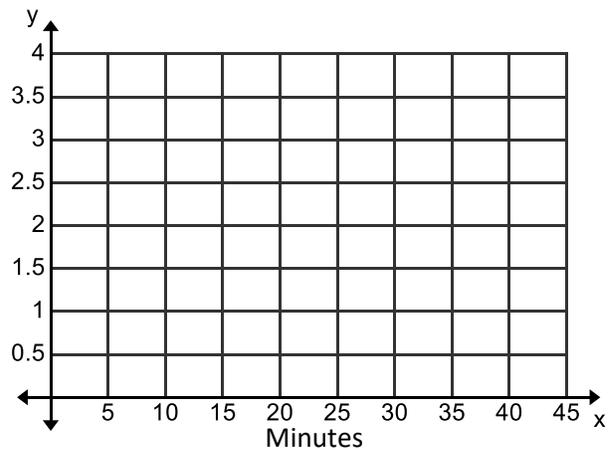
The next delivery was in a bad part of town. While Jackson was taking the pizza in to the customer, some criminals siphoned gas out of his tank so they could refill their lowrider. He was only gone for 10 minutes, but they stole 10 gallons of gas.

Jackson was finished making deliveries for the night, so he headed home. After 20 minutes he stopped at a gas station to refill his tank.



2. Sketch a possible graph showing the distance away from home over time:

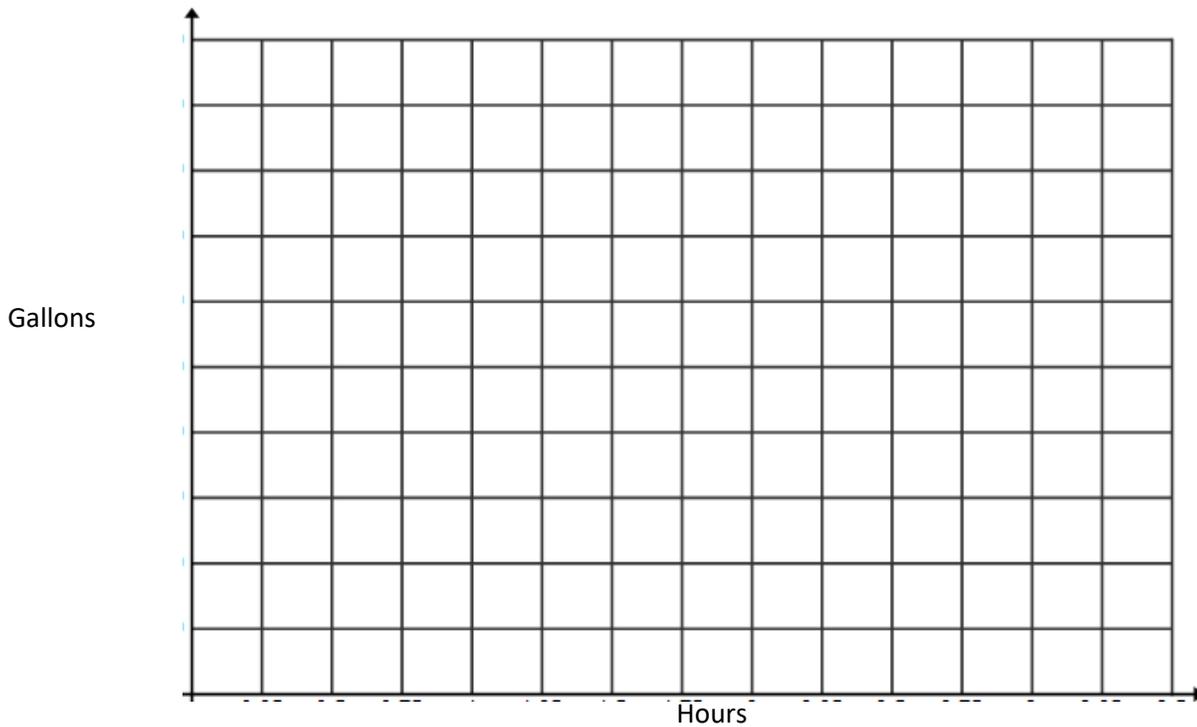
Sidney took her dog for a walk. She walked at a steady pace for 20 minutes then sat down on a bench to rest for 5 min. She started walking back home, but after 2 minutes a big, scary dog started chasing them, so they ran home and made it back in only 8 minutes.



3. Sketch a possible graph showing the amount of water in the pool over time for this story. Label the axes with appropriate scales:

Madison has a small pool full of water that needs to be emptied and cleaned, then refilled for a pool party. At noon she started to empty the pool by using a bucket to remove a gallon at a time. After 10 minutes, her two sisters felt sorry for her and joined in, each with a 5-gallon bucket. They each put their buckets in the water at the same time, and pulled them out at the same time. It only took 5 minutes for all of them to get tired. Madison’s dad helped her fix a hose to the pool to drain the water at a constant rate, so they sat back and watched the pool drain for an hour.

At this point the pool was empty, so Madison used a scrub brush to clean the empty pool. It only took her 15 minutes to get all the dirt off, then she turned the hose on and started to refill the pool. An hour and a half later, the pool was full and she was ready for the party.



- a) Does your graph represent a function? Why or why not?
- b) When is the water level increasing?                      Decreasing?                      Staying the same?

4. Ellie inherited a collection of 17 snow globes from her grandma. A couple of days later she bought 4 globes at a garage sale. The next day her little brother broke the one from Arkansas. He felt terrible about it so he spent a week doing extra chores to earn money, then bought Ellie two more snow globes from Anawon.com.

- a) Sketch a possible graph of this situation.
- b) What is a discrete graph?
- c) What is a continuous graph?

