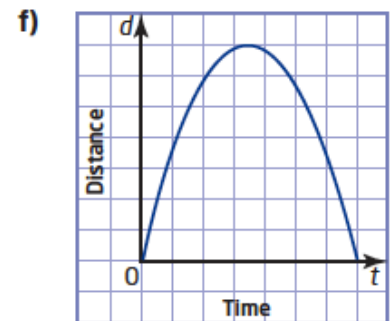
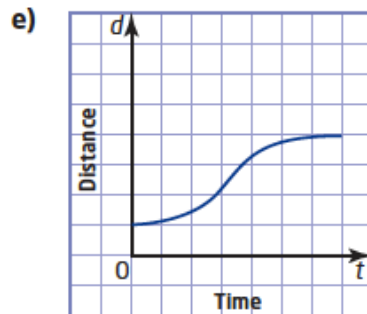
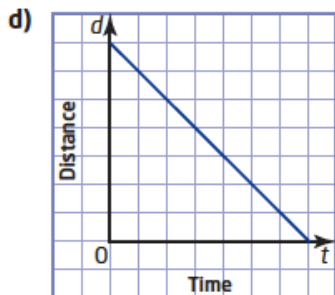
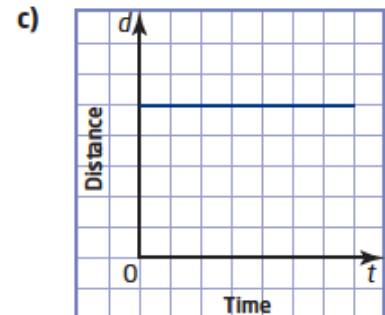
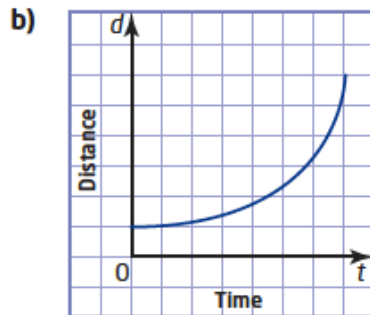
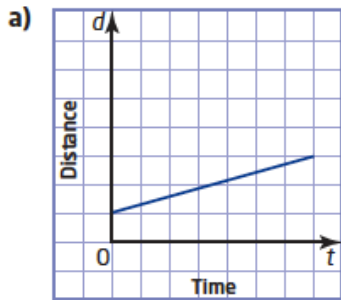


2.6 Distance Time Graphs Worksheet

MPM1D

Jensen

1. Describe the motion shown in each distance-time graph. Write a few sentences describing a situation that could be represented by each graph.



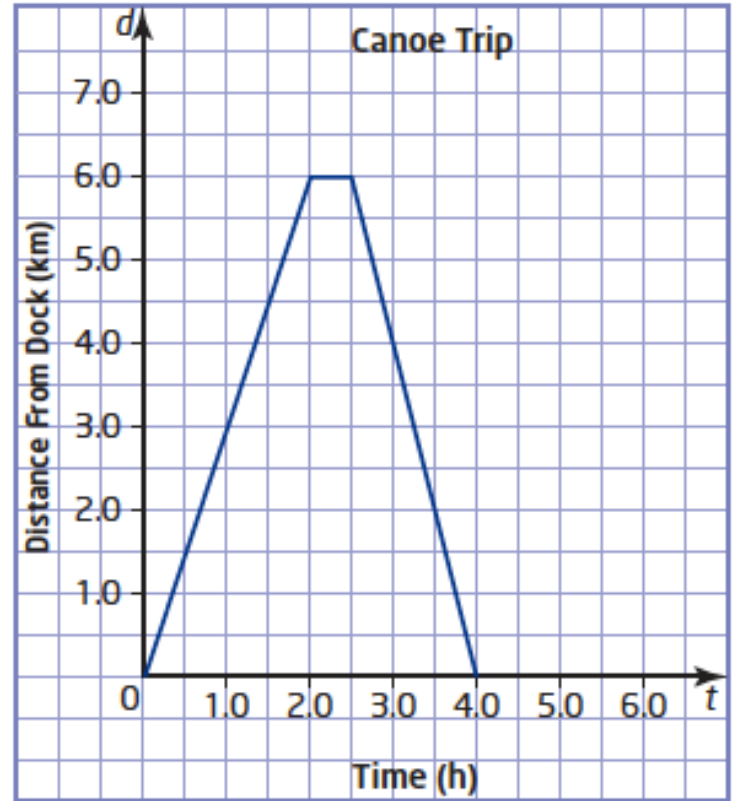
2. Which of the graphs in question 1 show linear relations between distance and time? Justify your answer.

3. A canoeist starts from a dock and paddles to the end of a lake and back. This graph shows the canoeist's distance from the dock during this trip.

a) How long did this trip take?

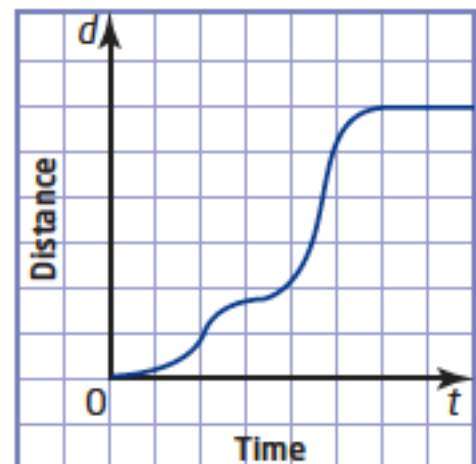
b) How far is it to the end of the lake?

c) What does the flat portion of the graph represent?



d) Was the canoeist travelling faster on the way out or on the way back?

4. This graph shows how far a cyclist has travelled from her starting point. Describe the cyclist's motion in a few sentences.



5. a) You are holding a rangefinder pointed at a nearby wall. Describe how you would move in order to match this graph.

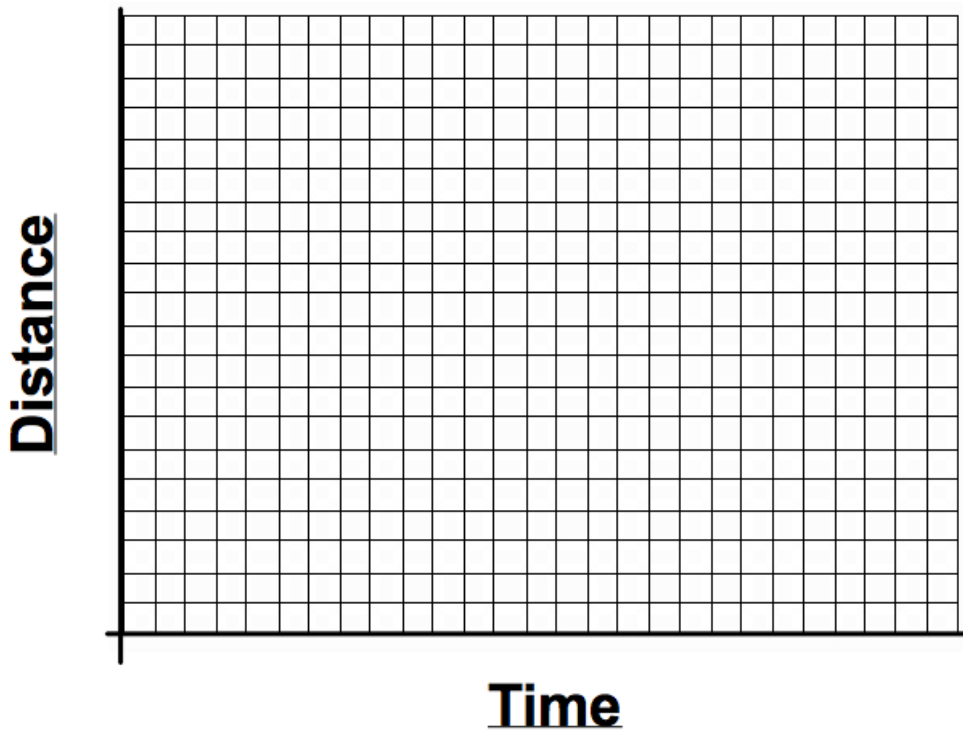
b) How would the distance-time graph change if you walked faster?

c) How would the graph change if you walked slower?

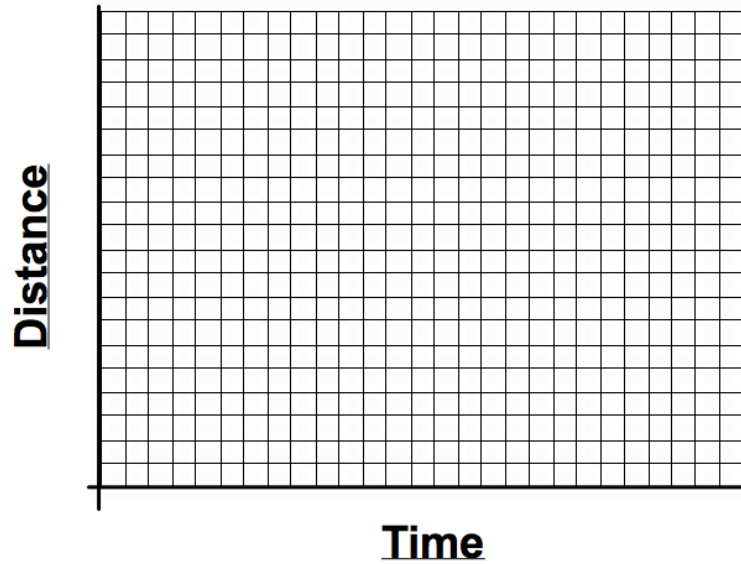
d) How would the graph change if you stopped sooner?

6. Draw a distance-time graph for this situation:

A student leaves home, walking at a steady pace. He slows down, then stops for a few seconds to mail a letter. He turns around and runs home at a constant speed.



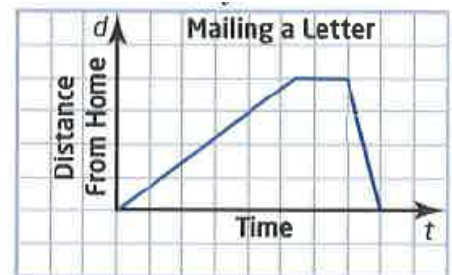
7. Sketch a distance-time graph for a car that slowly speeds up after stopping at a traffic light.



Answers

1. **a)** moving away at constant speed
b) moving away with increasing speed
c) no movement
d) moving closer at constant speed
e) moving away at increasing speed, then slowing down and stopping
f) moving away at decreasing speed, stopping for a moment, then coming back with increasing speed
2. Graphs a, c, d; the points lie on a line.
3. **a)** 4 h **b)** 6 km
c) stopping at the end of the lake
d) on the way back
4. After starting out, the cyclist increases her speed, then slows down. Then she travels a bit faster than before, then slows down and stops.
5. **a)** Move away from the wall at a constant speed, then walk back toward the wall at the same speed, but stop before you reach your starting position.
b) The sloped line segments would be steeper.
c) The sloped line segments would be less steep.
d) The middle segment would be shorter and the horizontal segment would be higher.

6.



7.

