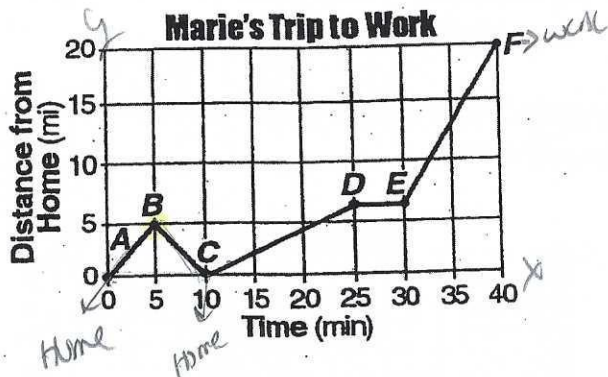


- 1) The accompanying graph shows Marie's distance from home (A) to work (F) at various times during her drive.

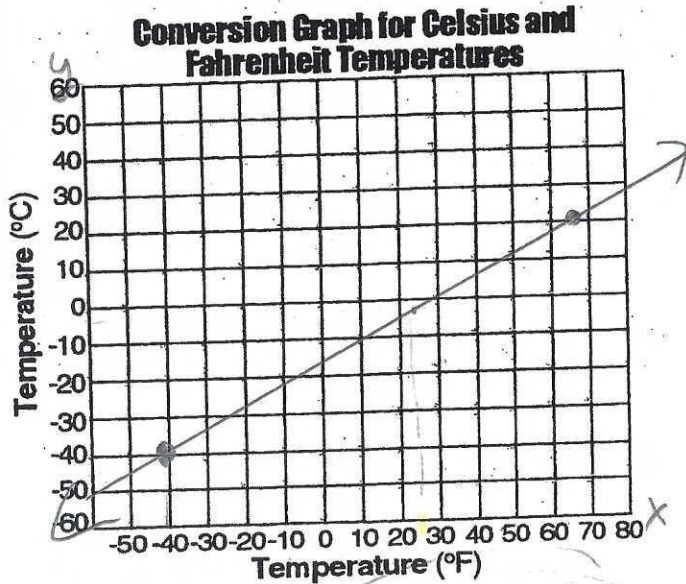


- (a) Marie left her briefcase at home and had to return to get it. State which point represents when she turned back around to go home and explain how you arrived at that conclusion.
 (b) Marie also had to wait at the railroad tracks for a train to pass. How long did she wait?

(a) B: b/c her distance from home decreases.

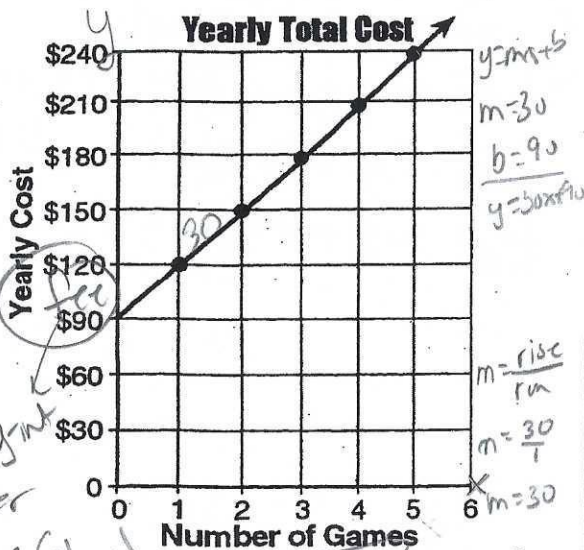
(b) 5 minutes: D → E b/c the time passes & distance does not change

- 2) Connor wants to compare Celsius and Fahrenheit temperatures by drawing a conversion graph. He knows that $-40^{\circ}\text{C} = -40^{\circ}\text{F}$ and that $20^{\circ}\text{C} = 68^{\circ}\text{F}$. On the accompanying grid, construct the conversion graph and, using the graph, determine the Celsius equivalent of 25°F .



$25^{\circ}\text{F} \approx -6^{\circ}\text{C}$
 $-6 \leq y \leq -1$
 $-6 \leq C \leq -1$

- 3) The accompanying graph represents the yearly cost of playing 0 to 5 games of golf at the Shadybrook Golf Course.



5 → 240
 6 → 270
 7 → 300
 8 → 330
 9 → 360
 10 → 390

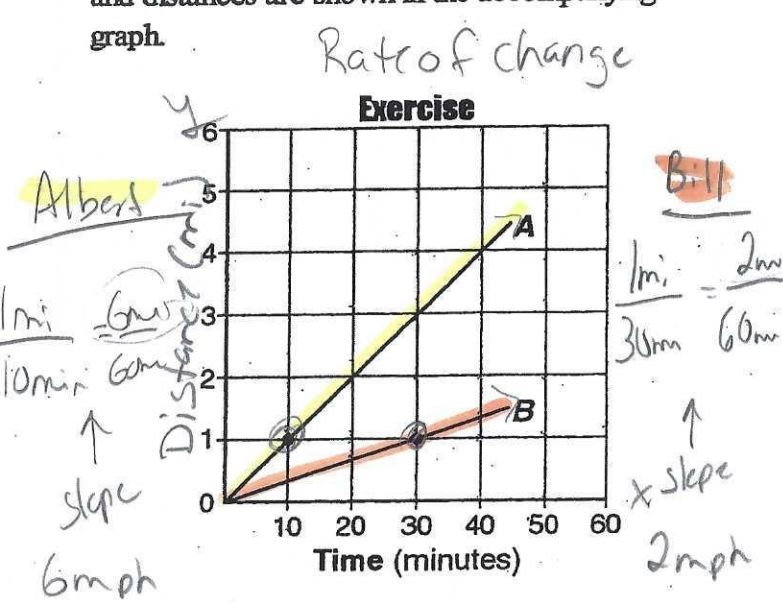
$y = mx + b$
 $m = 30$
 $b = 90$
 $y = 30x + 90$
 $m = \frac{\text{rise}}{\text{run}}$
 $m = \frac{30}{1}$
 $m = 30$
 $b = 90$

What is the total cost of joining the club and playing 10 games during the year?

\$390

X-value
 $y = 30x + 90$
 $y = 30(10) + 90$
 $y = 300 + 90$

- 4) During a 45-minute lunch period, Albert (A) went running and Bill (B) walked for exercise. Their times and distances are shown in the accompanying graph.



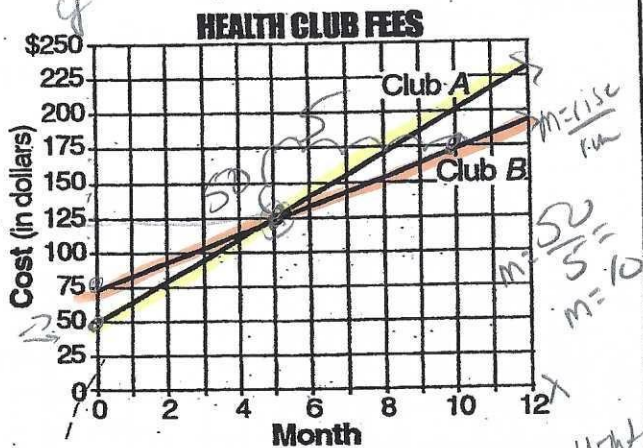
Albert
 $\frac{1 \text{ mi}}{10 \text{ min}}$
 $\frac{6 \text{ mi}}{60 \text{ min}}$
 slope
 6 mph

Bill
 $\frac{1 \text{ mi}}{30 \text{ min}}$
 $\frac{2 \text{ mi}}{60 \text{ min}}$
 slope
 2 mph

How much faster was Albert running than Bill was walking, in miles per hour?

Albert is faster by 4 mph
 $6 - 2 = 4 \text{ mi/hr}$
 4 mph faster

Two health clubs offer different membership plans. The graph below represents the total cost of belonging to Club A and Club B for one year.



- (a) If the yearly cost includes a membership fee plus a monthly charge, what is the membership fee for Club A?
- (b) Using the graph above, determine:
- What is the number of the month when the total cost is the same for both clubs?
 - What is the total cost for Club A when both plans are the same?
- (c) What is the monthly charge for Club B?

(a) \$50 → slope

(b) (1) 5 months
(2) \$125

(c) \$10 per month

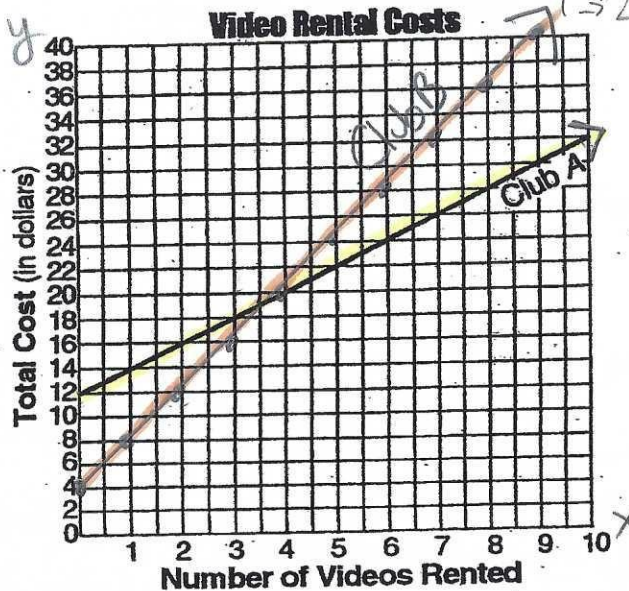
$$m = \frac{\$125 - \$75}{5 \text{ months}} = \frac{\$50}{5} = 10$$

Two video rental clubs offer two different rental fee plans:

Club A charges \$12 for membership and \$2 for each rented video. $y = 2x + 12$

Club B has a \$4 membership fee and charges \$4 for each rented video. $y = 4x + 4$

The graph below represents the total cost of renting videos from Club A.

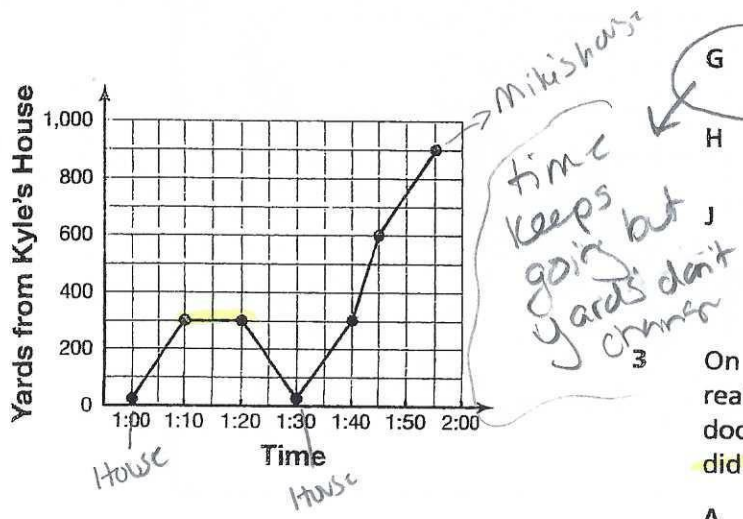


- (a) On the same set of axes, draw a line to represent the total cost of renting videos from Club B.
- (b) For what number of video rentals is it less expensive to belong to Club A? [Explain how you obtained your answer.]

→ 5 or more b/c club A's line is below club B's line meaning it costs less.

Sample Test Questions

The graph below shows this situation: Kyle left his house at 1:00 P.M. and walked to Michael's house. Michael's house is 900 yards from Kyle's house. Use the graph to answer Questions 1-3.



1 Kyle walked at the same pace for most of his trip. For a short period of time, he picked up his pace by jogging. When did he jog?

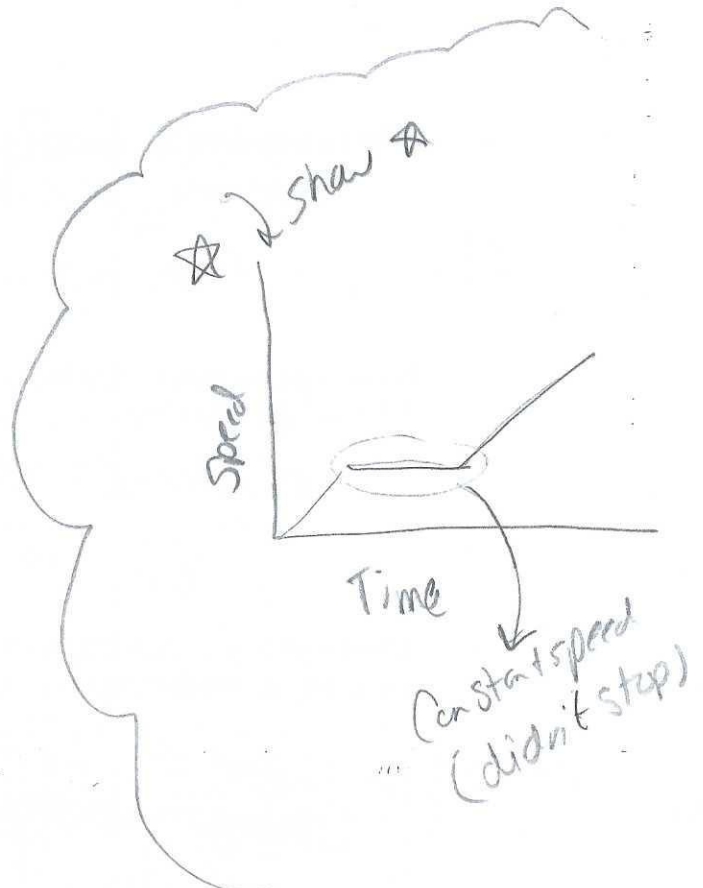
- A from 1:00 to 1:10 $\frac{300}{10} = 30$
 - B from 1:10 to 1:20 \rightarrow no miles
 - C from 1:30 to 1:40 $\rightarrow \frac{300}{10} = 30$
 - D from 1:40 to 1:45 $\rightarrow \frac{300}{5} = 60$
- Faster: steeper slope

2 What could have happened from 1:10 to 1:20?

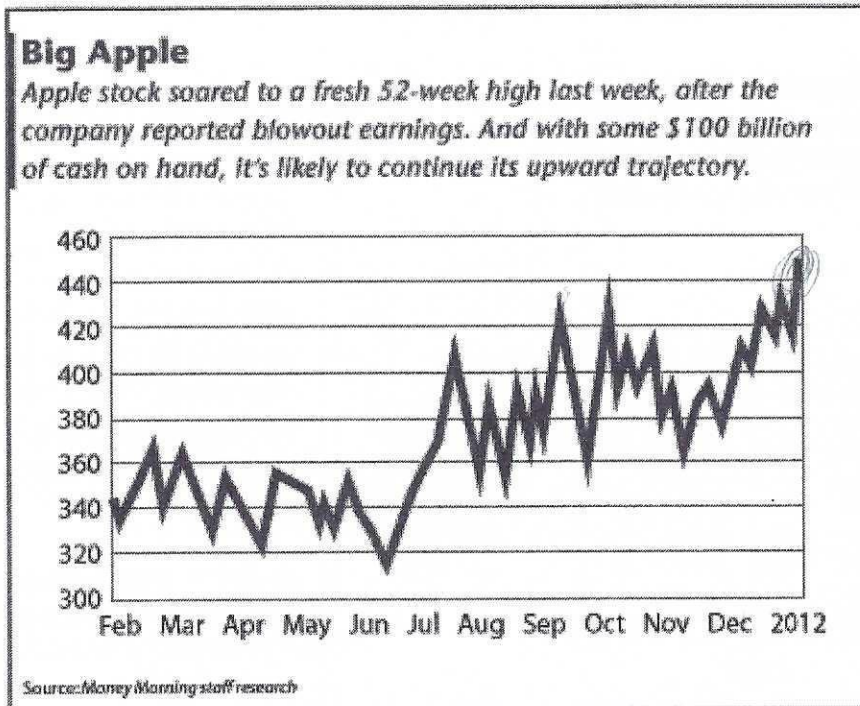
- F He walked faster than he walked from 1:00 to 1:10.
- G He stopped at a store to buy a present for Michael's mother.
- H He made a right turn from the path he walked on from 1:00 to 1:10.
- J He walked back home to make sure he had locked the door.

3 On his way to Michael's house, Kyle realized that he forgot to lock his front door, so he had to return home. When did he get home?

- A 1:00
- B 1:20
- C 1:30
- D 2:00



Below is a graph of Apple's stock price per share over most of the year 2012.



- a) The iPhone 5 was launched on September 21, 2012. Does the graph reflect this?

Yes b/c there is an increase in sales b/c everyone wants to buy one

- b) Why do you think the stock price decrease so much after the launch of the iPhone 5?

- everyone already has one
- ran out of stock

- c) When was the stock price the highest? Approximate this value. What do you think the reason is for that?

highest: end of December
b/c of holidays

- d) When was the stock price the lowest? Approximate this value. What do you think the reason is for that?

lowest: June b/c of ≈ \$310 bill
Camp, vacations, nothing new,
waiting for the new version.

Homework

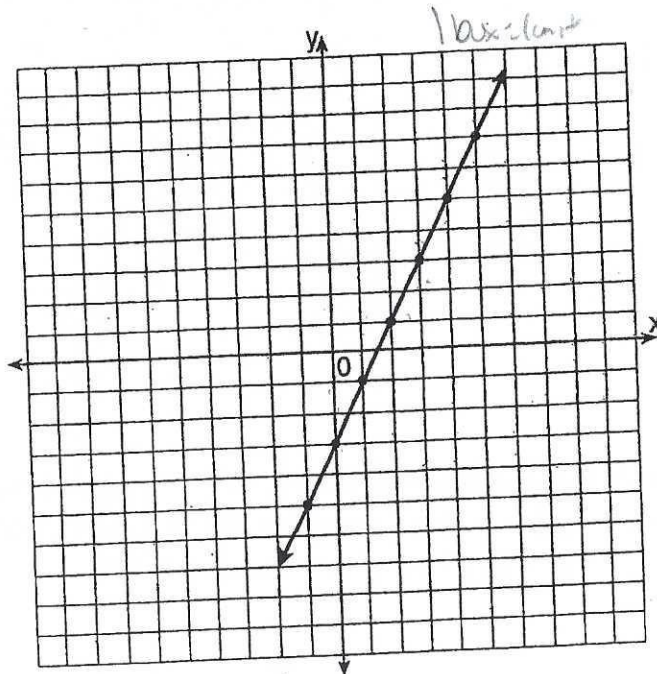
1) Write the equation for the line shown in the accompanying graph. [Explain your answer.]

$$y = mx + b$$

$$m = 2$$

$$b = -3$$

$$y = 2x - 3$$



* The slope is 2 B/c the rise is 2 & the run is 1.

* The y-intercept is -3, B/c the line intersects the y-axis at -3.

2) The figure below represents the distances traveled by car A and car B in 6 hours.

Car A

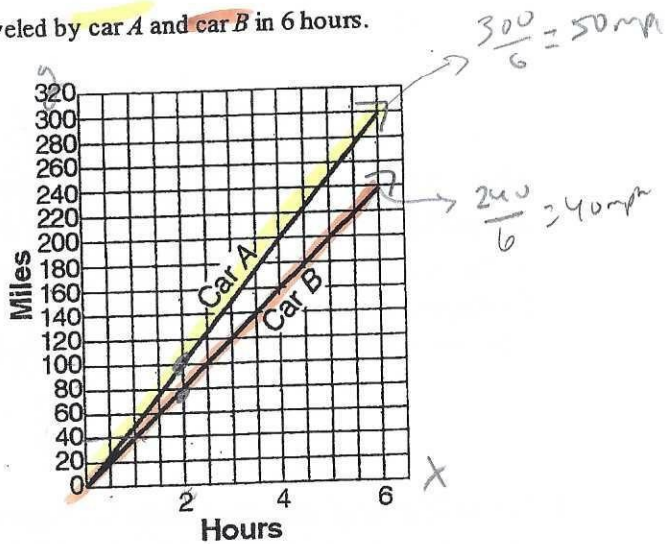
$$\frac{100 \text{ mi}}{2 \text{ hr}} = 50 \text{ mph}$$

↓
Slope

Car B

$$\frac{80 \text{ mi}}{2 \text{ hr}} = 40 \text{ mph}$$

↓
Slope



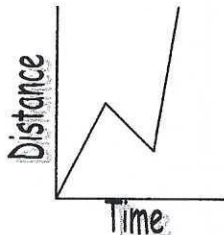
$$50 - 40 = 10$$

Which car is going faster and by how much? [Explain how you obtained your answer.]

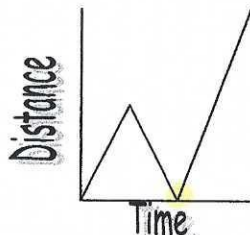
Car A is going faster by 10 mi/hr B/c I figured out the rate of change for each car & then subtracted the values

Homework

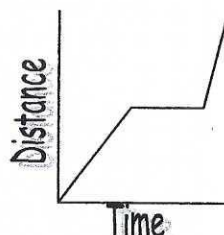
Match each of line graphs 1 through 4 with one of paragraphs a through d below.



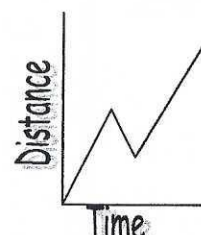
(1)



(2)



(3)



(4)

- (a) When Tim was halfway to school, he remembered that he had left an assignment that was due that day on the kitchen table. He went back home to get it and then started out again for school.

2

- (b) When Tim was halfway to school, he remembered that he had left an assignment that was due that day on the kitchen table. He started back home to get it; but when he was halfway there, he met his brother, who had noticed the assignment and brought it with him. Tim took it and then continued on to school.

4

- (c) When Tim was halfway to school, he remembered that he had left an assignment that was due that day on the kitchen table. He started back home to get it; but when he was half way home, his mother met him. She had found the assignment on the table and brought it to him. She drove him the rest of the way to school so that he would not be late.

1

- (d) When Tim was halfway to school, he met a friend who was walking the opposite direction. They stood and talked for a few minutes before Time continued on his way to school.

3