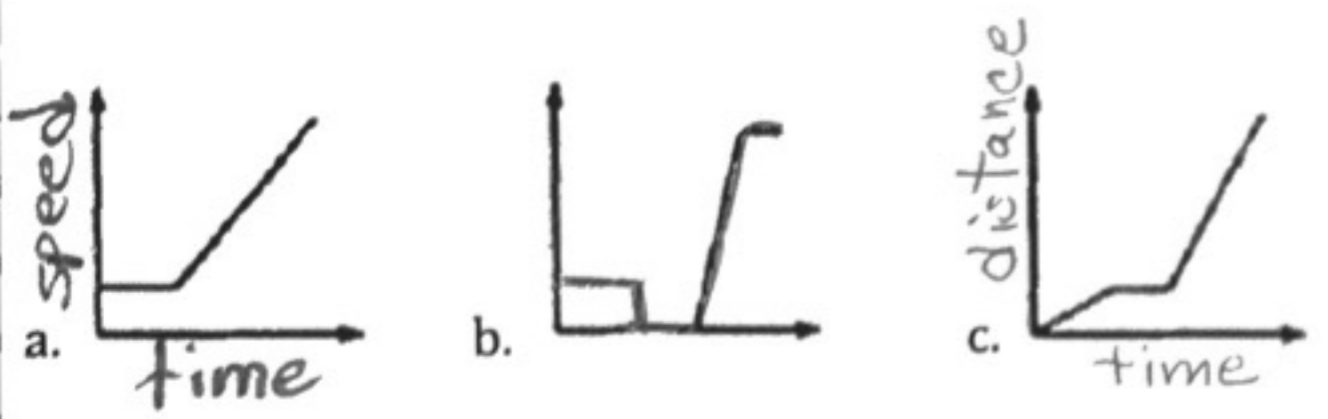


Unit 4: Interpreting Graphs

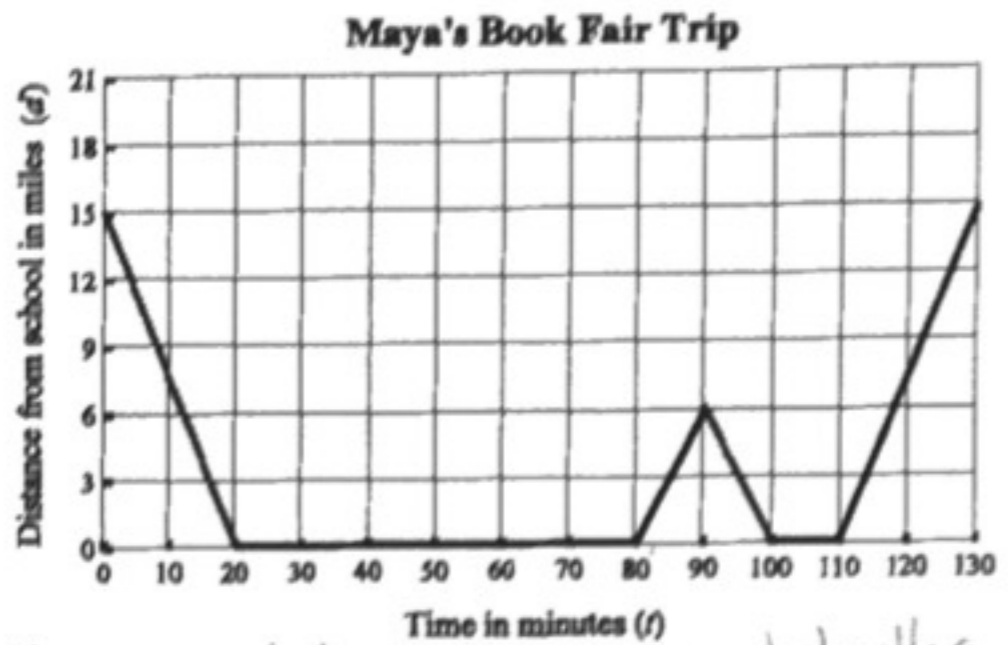
1 Choose the best graph for the given situation. Label the axes with the variables given in parenthesis. For the graph not chosen create your own situation.

Mr. Mustard walked to the subway station, waited a few minutes, then got on a train. (*distance/time*) C

Mr. Mustard walked to the subway station, waited a few minutes, then got on a train. (*speed/time*) A

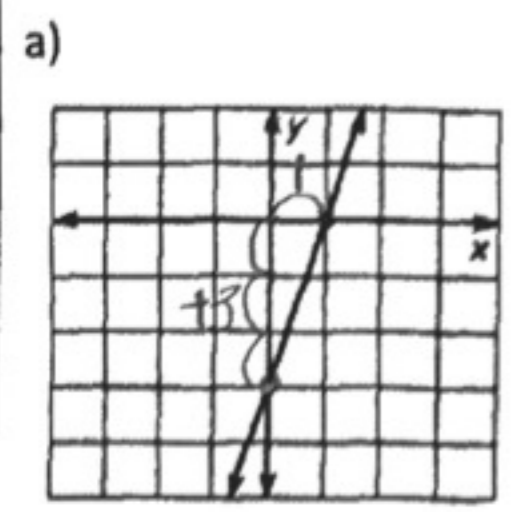


2 Maya and her mother drive from their home to Maya's school on Saturday to attend the book fair. Describe what is happening on Maya and her mother's trip from the graph below.

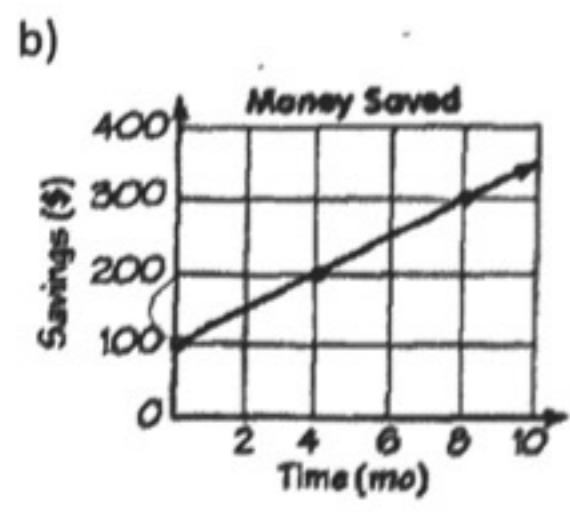


Maya and her mom went to the book fair and looked for an hour. They left and went to the atm to get money ten minutes away. They returned to the school, purchased the books, then drove home.

3 Find the slope, y-intercept, and equation for each line.



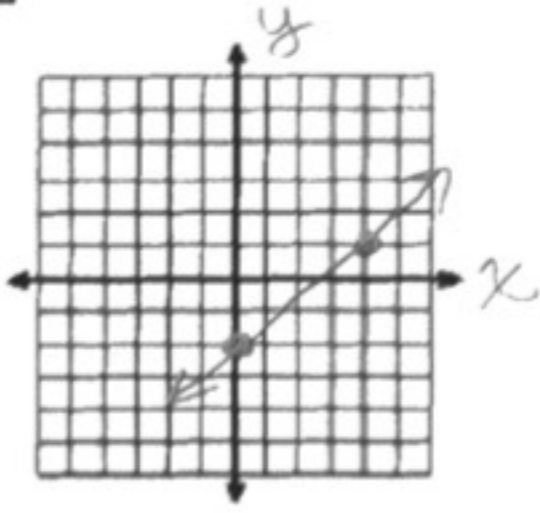
a) Slope (m): $\frac{\Delta y}{\Delta x} = \frac{3}{1} = 3$
 y-intercept (b): -3
 Equation: $y = 3x - 3$



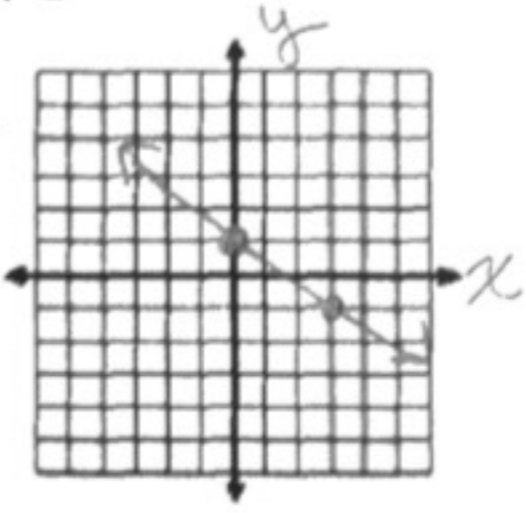
b) How much money had been saved at time 0?
\$100
 What was the rate of saving (\$/mo)?
 $m = \frac{\Delta y}{\Delta x} = \frac{100}{4} = 25$
 Equation: $y = 25x + 100$
 $y = mx + b$

4 Use the slope and y-intercept to graph each equation.

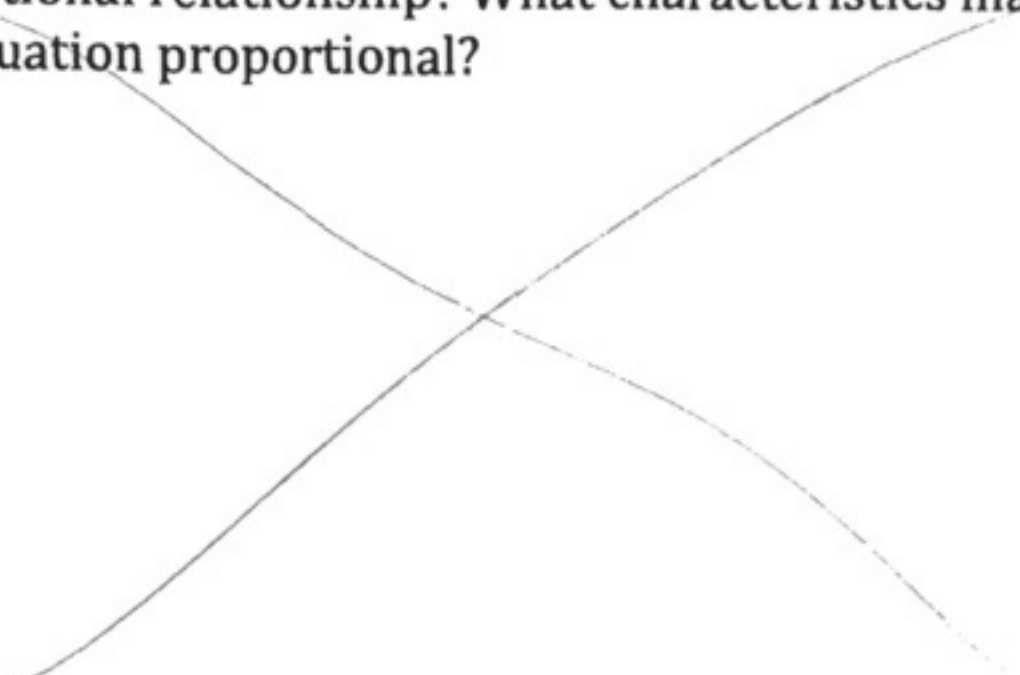
a) $y = \frac{3}{4}x - 2$
 $m = \frac{3}{4}$
 $b = -2$



b) $y = -\frac{2}{3}x + 1$
 $m = -\frac{2}{3}$
 $b = 1$



5 Write a word problem that represents a proportional relationship? What characteristics make this situation proportional?



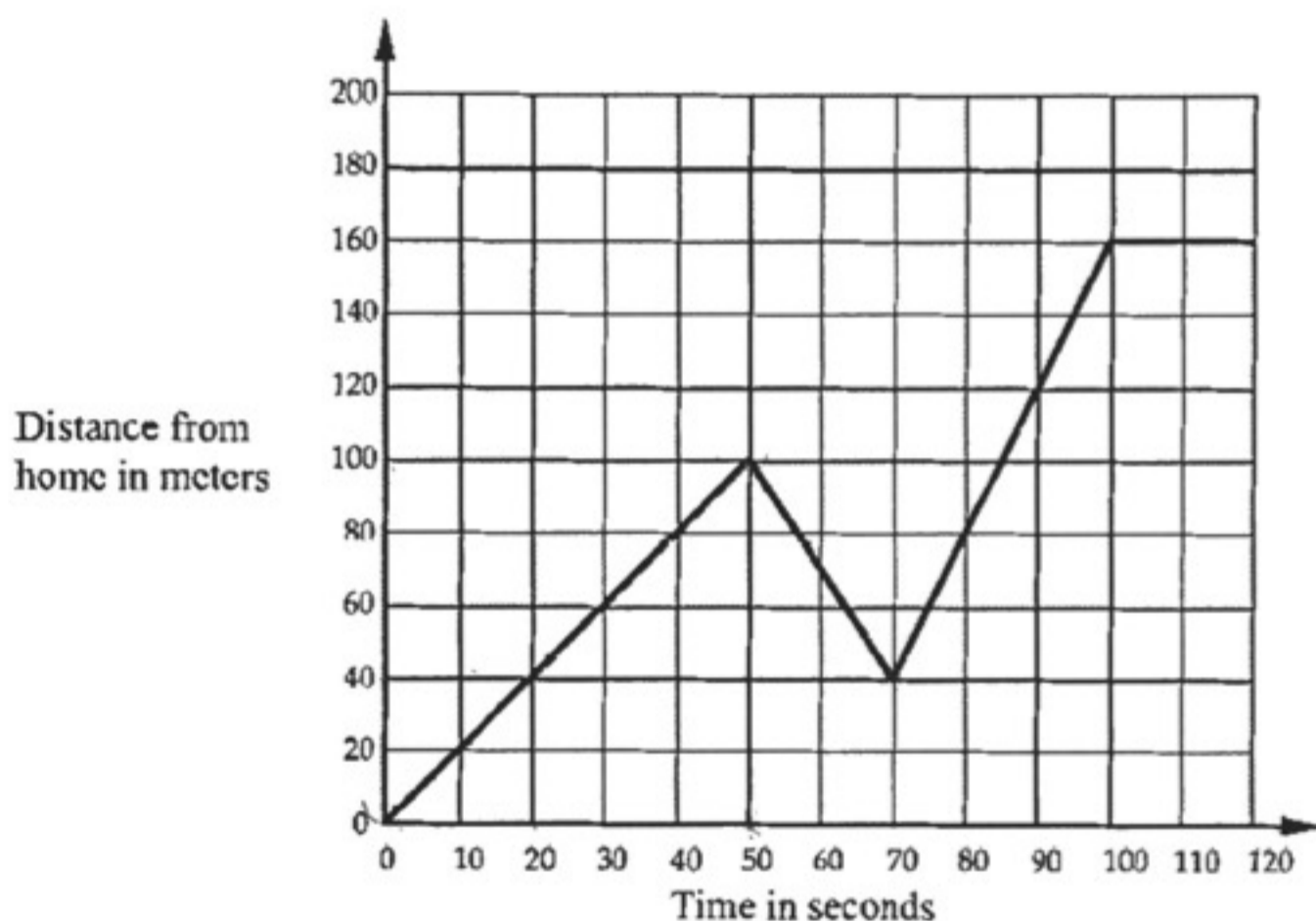
6 a) What is $\frac{634}{999}$ written as a decimal?

$\overline{.634}$ ← means repeating decimal

b) What is $\frac{23}{33}$ written as a decimal?

$\frac{23}{33} \cdot \frac{3}{3} = \frac{69}{99} \quad \overline{.69}$

7 Every morning Tom walks along a straight road from his home to a bus stop, a distance of 160 meters. The graph shows his journey on one particular day.



a) What is his distance from home after 50 seconds? What does it mean in the context of the scenario?

100 meters Tom walks 100 meters in 50 seconds.

b) Given that $y = 40$, find the value(s) of x . Describe the x -value(s) in terms of the scenario.

$x = 20$
It takes Tom 20 seconds to walk 40 meters

c) Find the speed at which Tom walks over the interval of 0 - 50 seconds.

$m = \frac{\Delta y}{\Delta x} = \frac{100}{50} = \boxed{2 \text{ m/s}}$

d) Find the speed at which Tom walks over the interval of 50 - 70 seconds.

$m = \frac{\Delta y}{\Delta x} = \frac{-60}{20} = \boxed{-3 \text{ m/s}}$

e) Find the speed at which Tom walks over the interval of 70 - 100 seconds.

$m = \frac{\Delta y}{\Delta x} = \frac{120}{30} = \boxed{4 \text{ m/s}}$

f) During which time interval is Tom walking the fastest? How can you tell by looking at the line that this is the time when Tom walked the fastest?

Tom walks the fastest from 70 - 100s. The line is more rapidly increasing (more steep) over that interval.