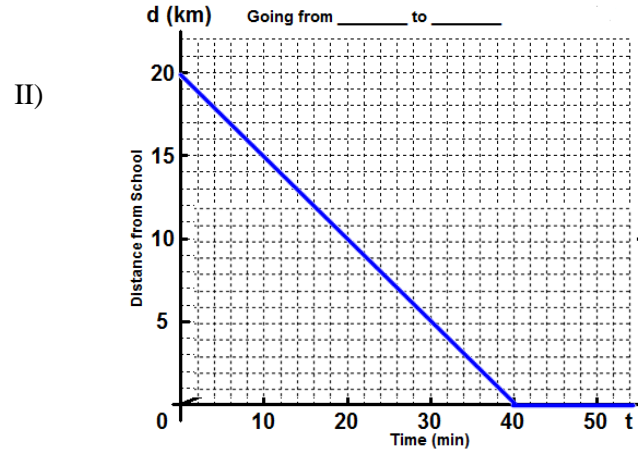
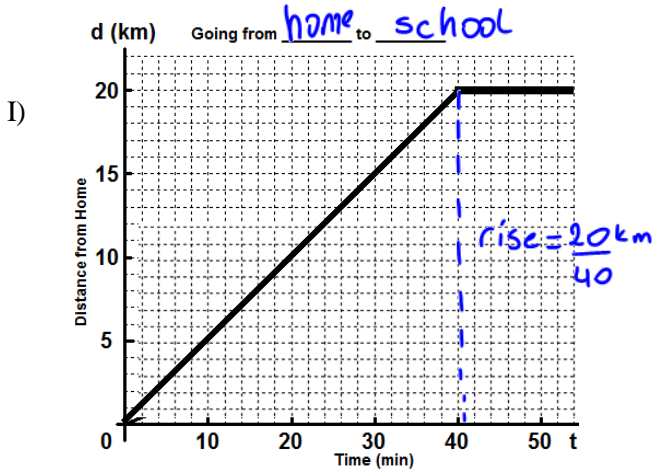


Day 1 - STEADY GONZALES

Graph below shows Gonzales' journey from his home to school over time.



- a) How far does Gonzales live from school? 20km
- b) How long does it take Gonzales to reach school? 40min
- c) What is Gonzales's rate of change (speed / slope)? (Leave time as min)

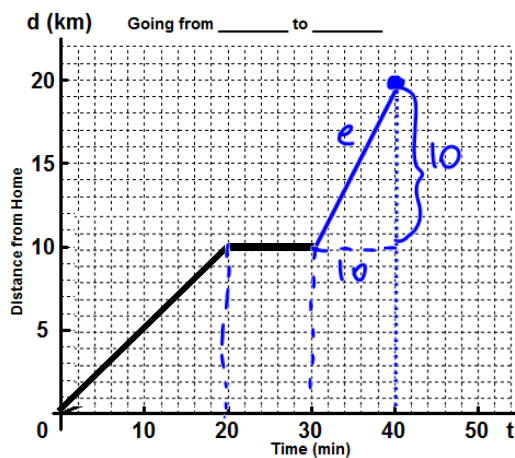
$$\text{Slope} = \frac{\text{rise}}{\text{run}} = \frac{20\text{ km}}{40\text{ min}} = 0.5\text{ km/min}$$
 if multiplied by 60, it's 30km/h

$$\text{speed} = \frac{\text{distance}}{\text{time}}$$

- d) Does Gonzales's speed change throughout his journey according to this graph? nope, it's steady/constant
- e) What does that horizontal line signify in the graph? When he arrives at school and staying there.
- f) Graph this scenario from friend of Gonzales's perspective who is waiting at school to meet him.

Day 2 - SPEEDY GONZALES

Now we know that, Gonzales lives 20km away from school. Another day and he leaves home at 7:20 am; he has to be at school at 8:00 am.



- a) How long his journey will take on day 2? 40min
- b) Calculate his rate of change (speed) for the first 20 minutes and describe this part of his journey.

$$\text{speed} = \frac{10}{20} = 0.5\text{ km/min}$$
He travels at a constant speed of 0.5 km/min or 30 km/h
- c) What do you think happened between 20 and 30 minutes of his journey?
He stops for exactly 10 min b/c he is still 10km away from school.
- d) He checks his time and it reads 7:50 am. How many minutes does he have left to make to school on time? 10min
- e) Draw a straight line after 30 minutes which indicates that he arrived school on time.

- f) What do you notice about the steepness of the line between 30 and 40 minutes of his journey compared to that of 0 and 20 minutes?

$$\text{speed} = \frac{10}{10} = 1\text{ km/min}$$
 60km/h He's faster by 30 km/h

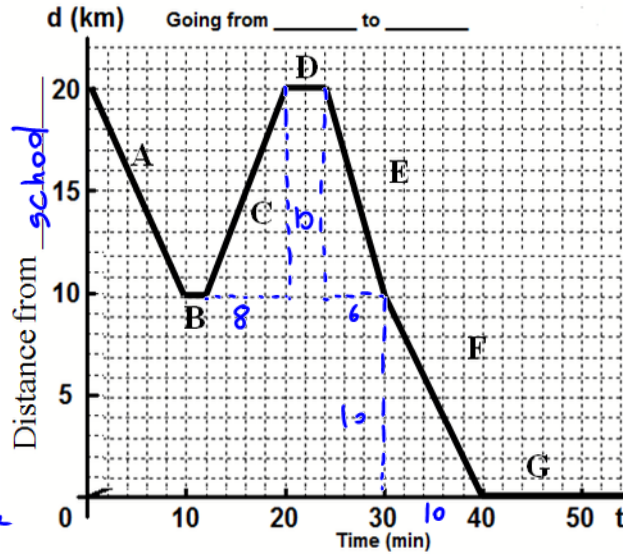
- g) The steeper the line the faster Gonzales travels.

DAY 3 - GONZALES THE FORGETFUL

As usual Gonzales leaves home at 7:20 am and has to be at school at 8:00 am latest. Describe in detail Gonzales' journey to school on the third day.

Slope = $\frac{-10}{10} = -1 \text{ km/min}$
 (A) $= -60 \text{ km/h}$

Slopes "-" b/c from someone's perspective who is at school, this is a negative correlation. As time increases, the distance decreases.



Speed (C) = $\frac{10}{8} \times 60 = 75 \text{ km/h}$

Speed (D) = 0

Speed (E) = $\frac{-10}{6} \times 60 = -100 \text{ km/h}$

Speed (F) = $\frac{-10}{10} \times 60 = -60 \text{ km/h}$

(A) Gonzales heads towards school at a constant speed of 60 km/h for 10 min. As he was humming his favourite song, he screams out loud:

"Oh shish kebab, did I pick up my math project?" His awesome powers enable him to stop without slowing down. He checks his backpack for 2 minutes (B). It is not there. He has to make a decision and heads back home (C) at a constant speed of 75 km/h for 8 min. He spends 4 min^(D) trying to find his project. As soon as he finds it, he heads toward school again at a constant speed of 100 km/h for 6 minutes (E). He checks his time and realizes that he does not have to rush; therefore, he slows down to a constant speed of 60 km/h. He arrives school in 40 min (G) and stays there.