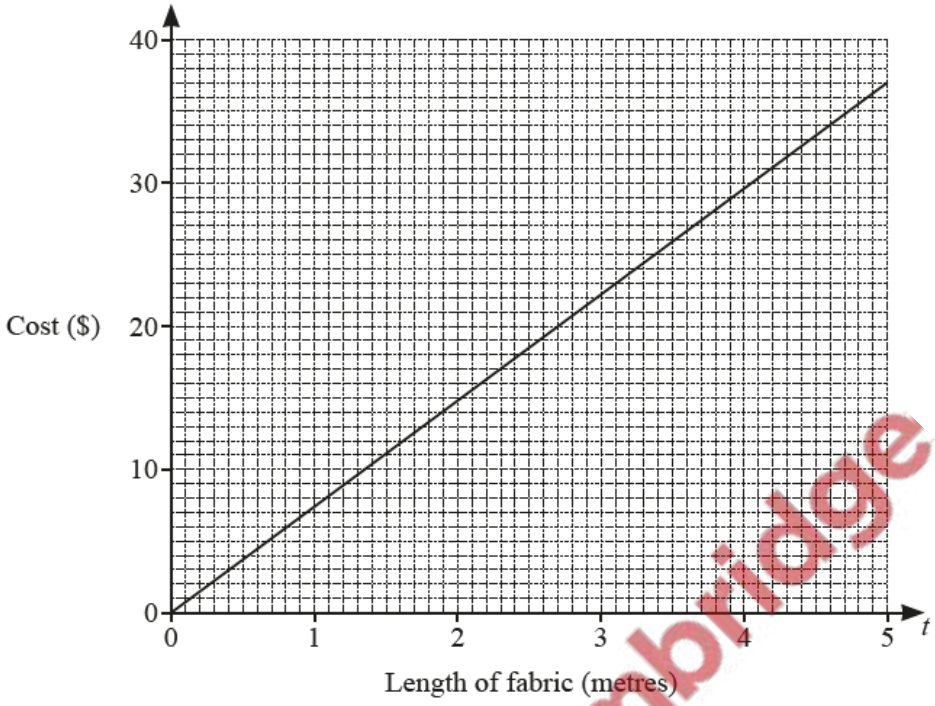
Graphs in practical situations – 2022 O Level Math D

1. June/2022/Paper_21/No.3

(a) The graph shows the cost, in dollars, of buying a length of fabric t metres long.



(i) Use the graph to find the cost of buying 3.8 m of fabric.

$ ..... [1]

(ii) Samira buys k metres of fabric.
She pays with a $20 note and receives $1.50 change.

Use the graph to find the value of k.

$k =$ ..... [2]

(b) Anita cuts 10 m of fabric into three lengths to make a blouse, a skirt and a dress.
The lengths of fabric needed to make the blouse, the skirt and the dress are in the ratio 6 : 8 : 11.

Find the length of the fabric that is cut to make the dress.

..... m [2]

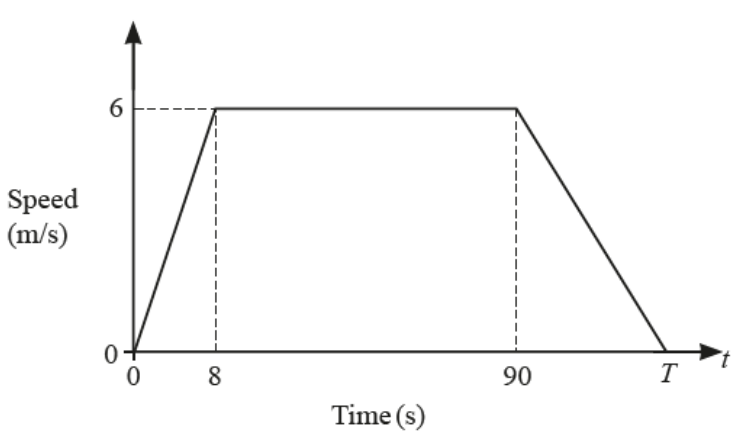
(c) The upper bound for the area of a rectangular piece of fabric is $8.8125\,\text{m}^2$.
The width of the piece of fabric is 2.3 metres, correct to the nearest 0.1 m.
The length of the piece of fabric is d metres, correct to the nearest 0.1 m.

Find the value of d.

$d =$ ..... [3]

2. June/2022/Paper_22/No.7

(a)



The diagram shows the speed–time graph for a cyclist's journey.

(i) Calculate the acceleration of the cyclist during the first 8 seconds.

..... m/s^2 [1]

(ii) Describe the motion of the cyclist between $t = 8$ and $t = 90$.

..... [1]

(iii) The total distance travelled by the cyclist during the journey is 558 m.

Find the value of T.

$T =$ ..... [3]

(iv) Convert 6 m/s into km/h.

..... km/h [2]

(b) A car travels 352 km, correct to the nearest kilometre.
The time taken to travel this distance is 4.2 hours, correct to the nearest 0.1 hour.

Calculate the upper bound for the average speed of the car.

..... km/h [3]