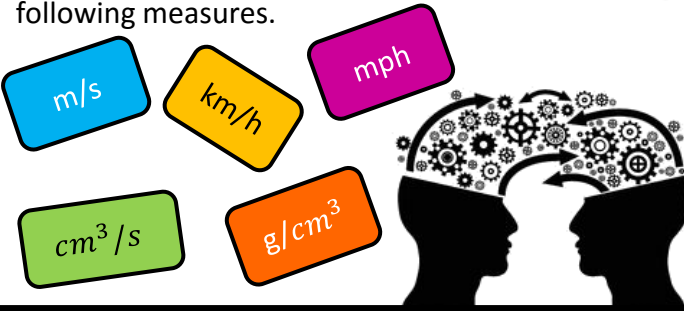
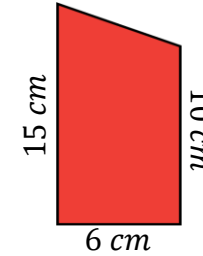
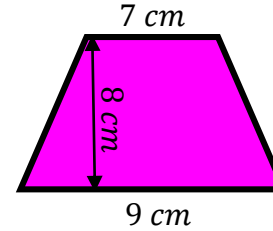
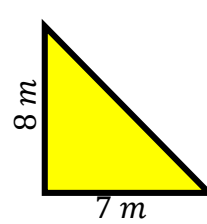


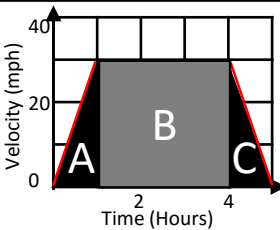
Tell me everything you know about the **Literacy** following measures.



Calculate the area of the following shapes.



**RoK**

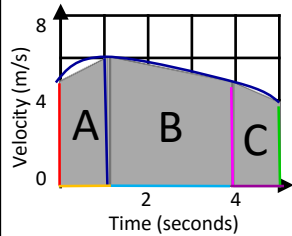


**Memory**

Calculate the distance travelled in 5 hours.  
 Area A =  $\frac{1(\text{hour}) \times 30(\text{mph})}{2} = 15 \text{ miles}$   
 Area B =  $3(\text{hours}) \times 30(\text{mph}) = 90 \text{ miles}$   
 Area C =  $\frac{1(\text{hour}) \times 30(\text{mph})}{2} = 15 \text{ miles}$

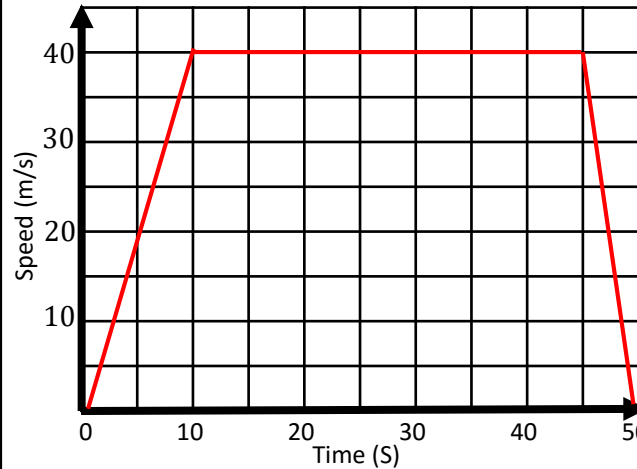
Total Area =  $A + B + C = 15 + 90 + 15 = 120 \text{ miles}$

Split the shape underneath the curve into 3-4 shapes you are comfortable calculating the area of. E.g. Rectangle, Triangle and Trapezium.



For more complex shapes use the Trapezium Rule.  
 Break the area underneath the curve into 3-4 trapeziums.  
**Area Trapezium Rule**  
 $= \frac{1}{2}(y_0 + y_1)h + \frac{1}{2}(y_1 + y_2)h + \frac{1}{2}(y_2 + y_3)h + \dots + \frac{1}{2}(y_{n-1} + y_n)h$

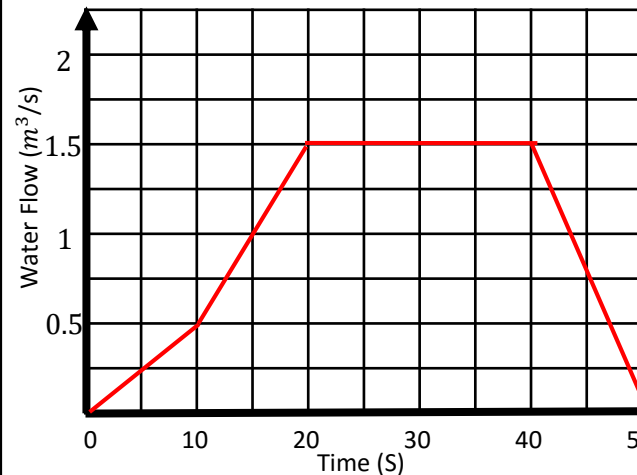
Calculate the distance travelled in 5 seconds.  
 Area A Area B Area C  
 $\text{Area} = \frac{1}{2}(5 + 6)1 + \frac{1}{2}(6 + 5)3 + \frac{1}{2}(5 + 4)1$   
 $= 5.5 + 16.5 + 4.5 = 26.5 \text{ metres}$



**Skill 1**

Here is a speed-time graph for Charlotte when she took part in a cycle race inside the velodrome. The race took 50 seconds.

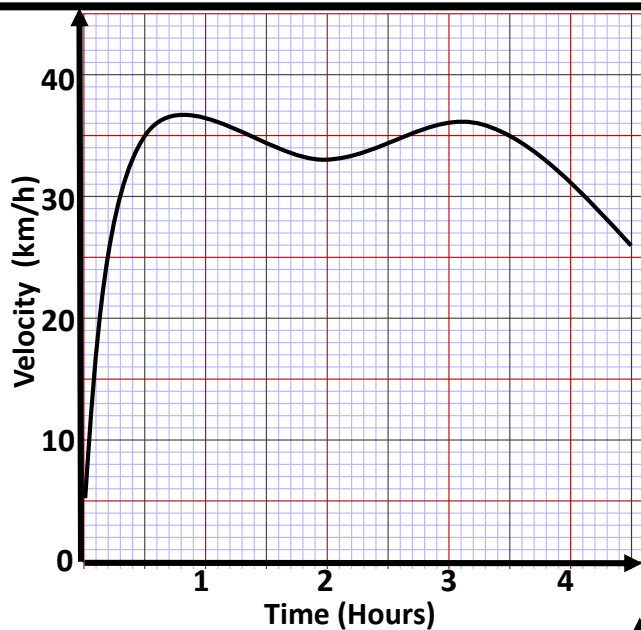
- a) What was Charlottes quickest speed? (Justify your answer)
- b) Calculate the total distance travelled by Charlotte.



Taylor was running a bath after a long day.

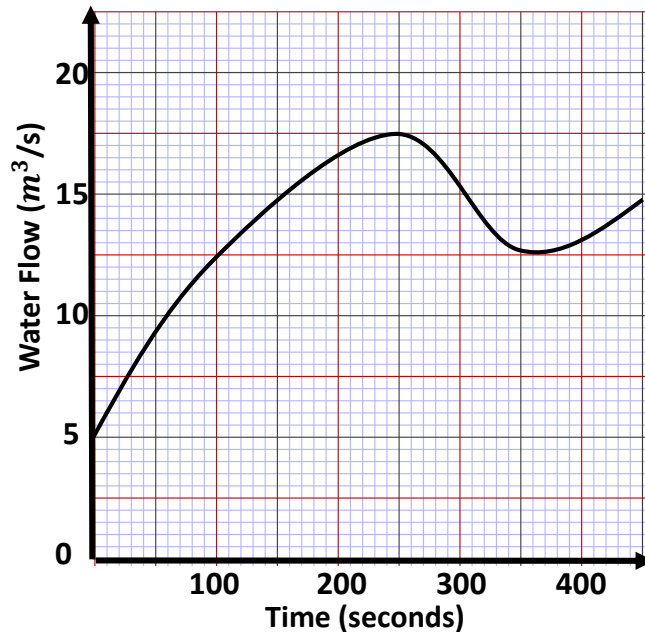
- a) How long was the water flowing at a constant speed for?
- b) Calculate the volume of water in the bath tub.
- c) Explain what might of happened between 10 & 20 seconds.





### Skill 2

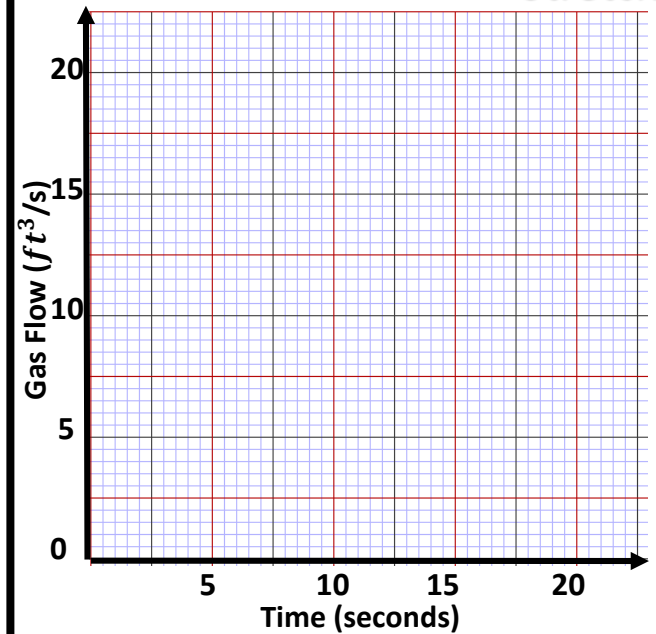
Bradley's cycled the first stage of the Tour de France. Use the speed-time graph to estimate how far Bradley travelled in stage 1 of the Tour de France.



The firemen were called to a fire.

Estimate how much water was used by the firemen to extinguish the fire.

### Stretch



There was a crack in a gas pipe. It start to leak at a constant rate of  $4\text{ft}^3/\text{s}$  for 5 seconds.

Then the crack suddenly got bigger. Rapidly the amount of gas escaping increased by  $2\text{ft}^3/\text{s}$  for 8 seconds.

The gas then escaped at a constant rate for 11 seconds.

Until the gas men managed to stop the leak.

- Draw a graph to represent this information.
- Estimate the volume of gas lost due to the leak.
- Each unit ( $1\text{ft}^3/\text{s}$ ) of Gas costs the company £2.99. How much did the gas leak cost the company?

