# Delta 3 – Unit 7 Revision Questions

**Q1.**

A sprinter runs a distance of 200 metres in 25 seconds.

Work out the average speed of the sprinter.

..... m/s

**(Total for question = 1 mark)**

**Q2.**

A box exerts a force of 140 newtons on a table.
The pressure on the table is 35 newtons/$m^2$.

Calculate the area of the box that is in contact with the table.

$$p = \frac{F}{A}$$

$p$ = pressure
$F$ = force
$A$ = area

.....

**(Total for question is 3 marks)**

**Q3.**

The diagram shows a solid triangular prism.

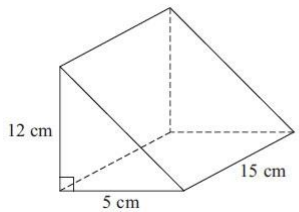



Diagram **NOT** accurately drawn

The prism is made from metal.
The density of the metal is 6.6 grams per $cm^3$.

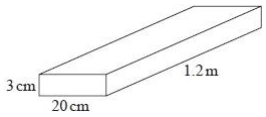
Calculate the mass of the prism.

.....

**(Total for Question is 3 marks)**

**Q4.**

The diagram shows a piece of wood in the shape of a cuboid.




The piece of wood is 3 cm by 20 cm by 1.2 m.
The mass of the piece of wood is 8 kg.

The piece of wood will float in sea water if the density of the wood is less than the density of the sea water.

In a large pool, 1 litre of sea water has a mass of 1030 g.

Will the piece of wood float in this pool?
You must show how you get your answer.

**(Total for question = 4 marks)**

**Q5.**

Andy cycles a distance of 30 km at an average speed of 24 km/h.
He then runs a distance of 12 km at an average speed of 8 km/h.

Work out the total time Andy takes.
Give your answer in hours and minutes.

..... hours ..... minutes

**(Total for question = 3 marks)**

**Q6.**

$$m = \frac{1}{ps}$$

$p$ = 5.37 correct to 2 decimal places.
$s$ = 2.9 correct to 1 decimal place.

Calculate the upper bound for the value for $m$.
You must show your working.

.....

**(Total for question = 3 marks)**

**Q7.**

$$I = \frac{V}{R}$$

$V$ = 250 correct to the nearest 5

$R$ = 3900 correct to the nearest 100

Work out the lower bound for the value of $I$.
Give your answer correct to 3 decimal places.
You must show your working.

.....

**(Total for question = 3 marks)**

**Q8.**

The value of $p$ is 4.3
The value of $q$ is 0.4

Both $p$ and $q$ are given correct to the nearest 0.1

(a) Write down the lower bound for $p$.

.....

**(1)**

$$r = p + \frac{1}{q}$$

(b) Work out the upper bound for $r$.
You must show all your working.

.....

**(3)**

**(Total for question = 4 marks)**

**Q9.**

Lyn measures the length, $x$ cm, of a piece of string as 3.5 cm correct to the nearest millimetre.

Write down the error interval for $x$.

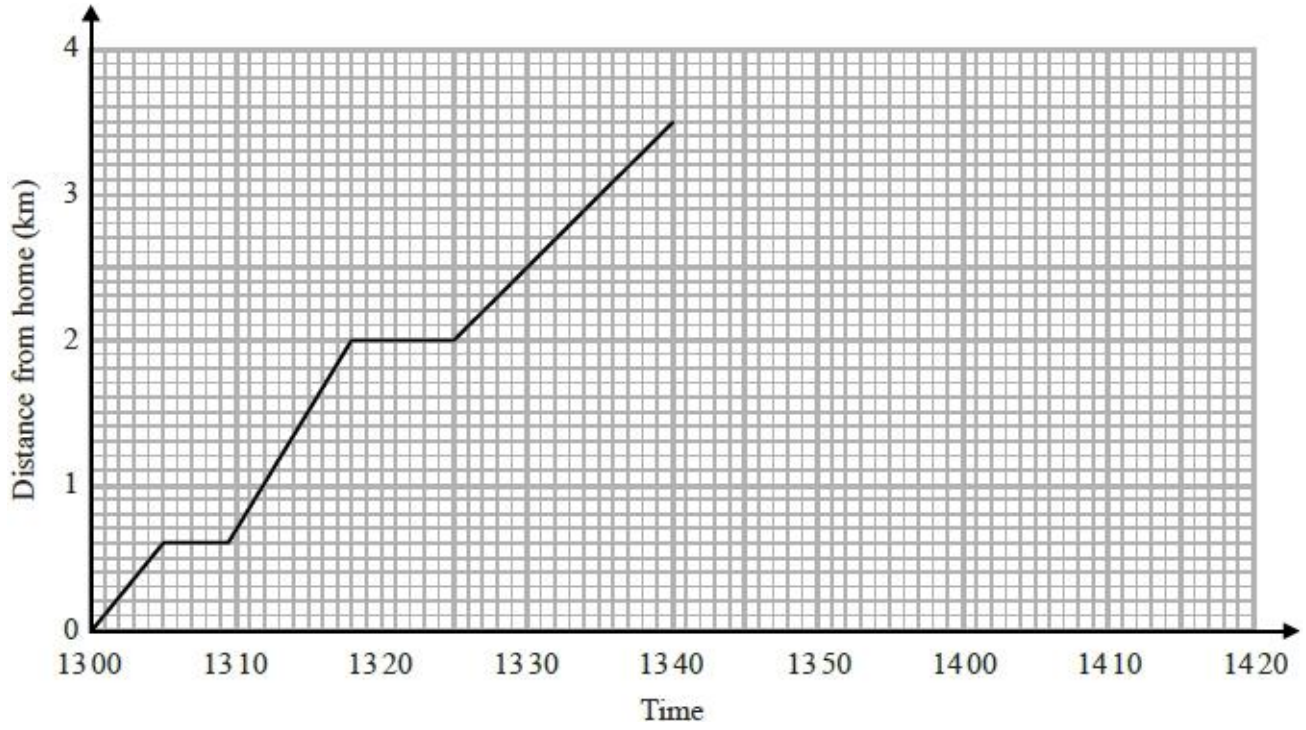
.....

**(Total for question = 2 marks)**

**Q10.**

Arshad delivers parcels on his bike.
He starts from his home.

Here is the travel graph for the first 40 minutes of Arshad's journey.




(a) What time did Arshad start his journey?

.....

**(1)**

Arshad had to stop to deliver each parcel.

(b) How long, in minutes, did his first stop take?

..... minutes

**(1)**

(c) What is the distance between the two stops shown on the travel graph?

..... km

**(2)**

At 13 40, Arshad stopped for 10 minutes to deliver his last parcel.
He then cycled home at a steady speed.
Arshad got home at 14 15

(d) Complete the travel graph to show this information.

**(2)**

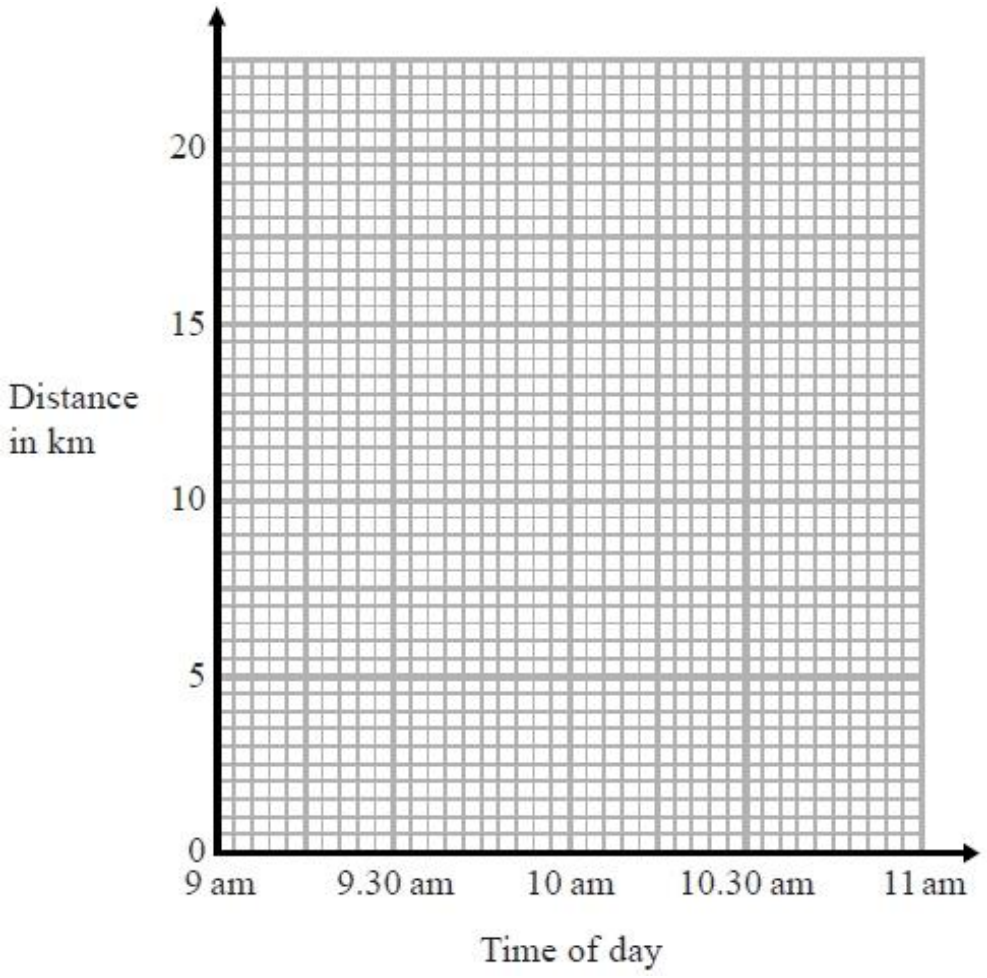
**(Total for question = 6 marks)**

**Q11.**

At 9 am, Bradley began a journey on his bicycle.

From 9 am to 9.36 am, he cycled at an average speed of 15 km/h.
From 9.36 am to 10.45 am, he cycled a further 8 km.

(a) Draw a travel graph to show Bradley's journey.




**(3)**

From 10.45 am to 11 am, Bradley cycled at an average speed of 18 km/h.

(b) Work out the distance Bradley cycled from 10.45 am to 11 am.

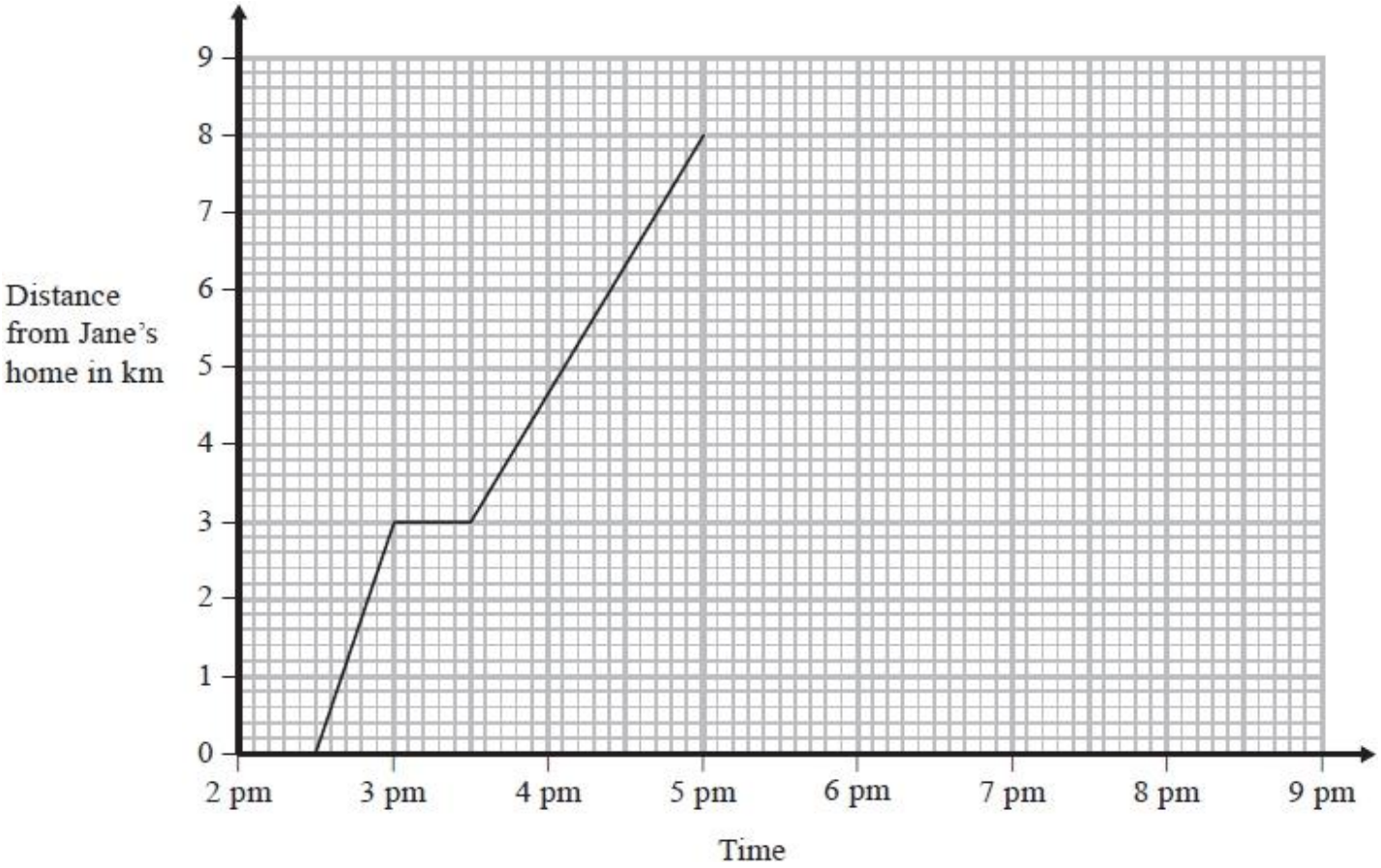
..... km

**(2)**

**Q12.**

Jane walked from her home to the ice rink.

The travel graph for Jane's journey to the ice rink is shown below.




On the way to the ice rink Jane stopped at her friend's house.

(a) How far is it from her friend's house to the ice rink?

..... km

**(1)**

Jane was at the ice rink for 1 hour 30 minutes.
She then walked home at a steady speed.
Jane took 2 hours to walk home.

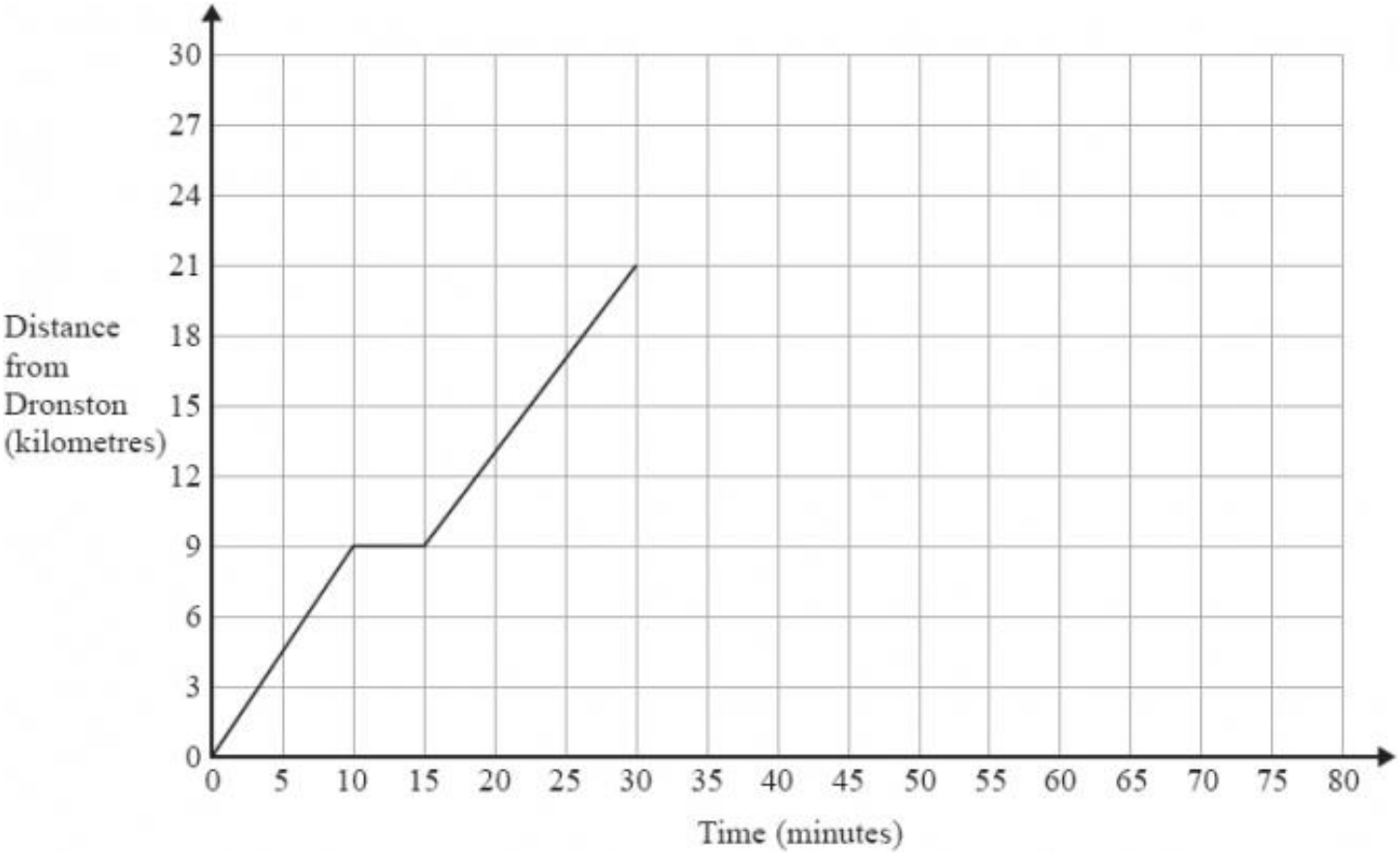
(b) Complete the travel graph for this information.

**(2)**

**(Total for question = 3 marks)**

**Q13.**

A coach travels from Dronston to Luscoe.
The travel graph for this journey is shown below.




(a) Work out the average speed of the coach, in kilometres per hour, for the first 10 minutes of the journey.

..... km/h

**(2)**

The coach stops in Luscoe for 15 minutes.
The coach then returns to Dronston at a constant speed of 42km/h.

(b) Show this information on the travel graph.

**(3)**

**(Total for question = 5 marks)**