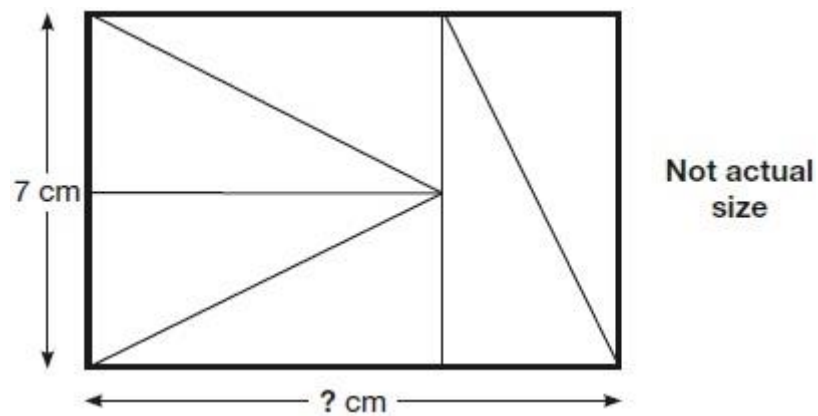


Q1.

Six identical right-angled triangles are arranged to make a rectangle.

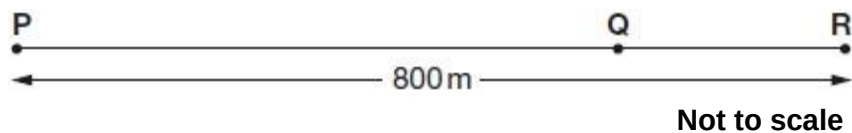


Calculate the **length** of the rectangle.

cm

1 mark

Q2.



The distance from point **P** to point **R** is 800 metres.

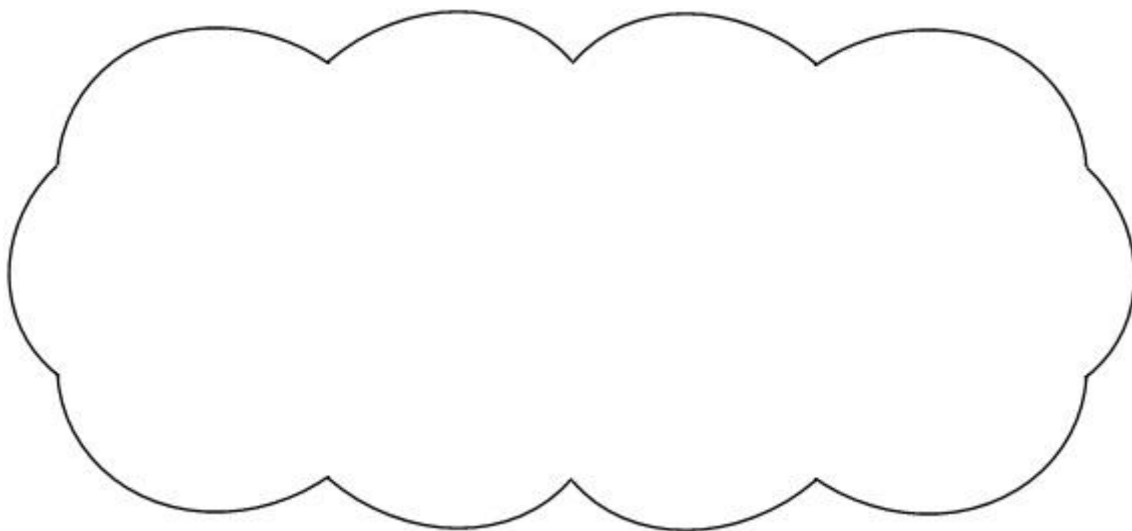
The distance from point **P** to point **Q** is **4 times** the distance from point **Q** to point **R**.

Olivia says,



It is 600 metres from
point **P** to point **Q**.

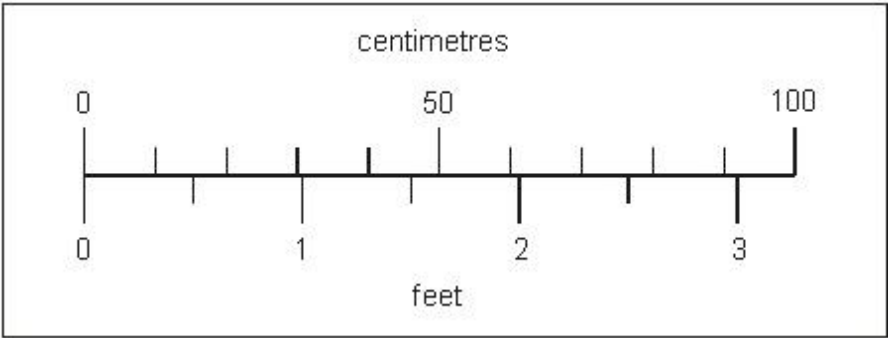
Explain why Olivia is **not** correct.



1 mark

Q3.

This scale shows length measurements in **centimetres** and **feet**.



Not actual size

Look at the scale.

Estimate the number of centimetres that are equal to $2\frac{1}{2}$ feet.

cm

1 mark

Estimate the difference in centimetres between 50 cm and $1\frac{1}{2}$ feet.

cm

1 mark

Q4.

Jack finished a sponsored run in 53 minutes 25 seconds.

Ally finished 3 minutes 50 seconds **after** Jack.

How long did Ally take?

min	sec
------------	------------

1 mark

Layla finished the run 8 minutes 45 seconds **before** Jack.

How long did Layla take?

min	sec
------------	------------

1 mark

Q5.



Here is part of a train timetable.

Edinburgh	–	09.35	–	–	13.35	–	–
Glasgow	09.15	–	11.15	13.15	–	13.45	15.15
Stirling	09.57	–	11.57	13.57	–	14.29	15.57
Perth	10.34	10.51	12.34	14.34	14.50	15.15	16.35
Inverness	–	13.10	–	–	17.05	–	–

How long does the first train from Edinburgh take to travel to Inverness?

1 mark

Ellen is at Glasgow station at 1.30 pm.

She wants to travel to Perth.

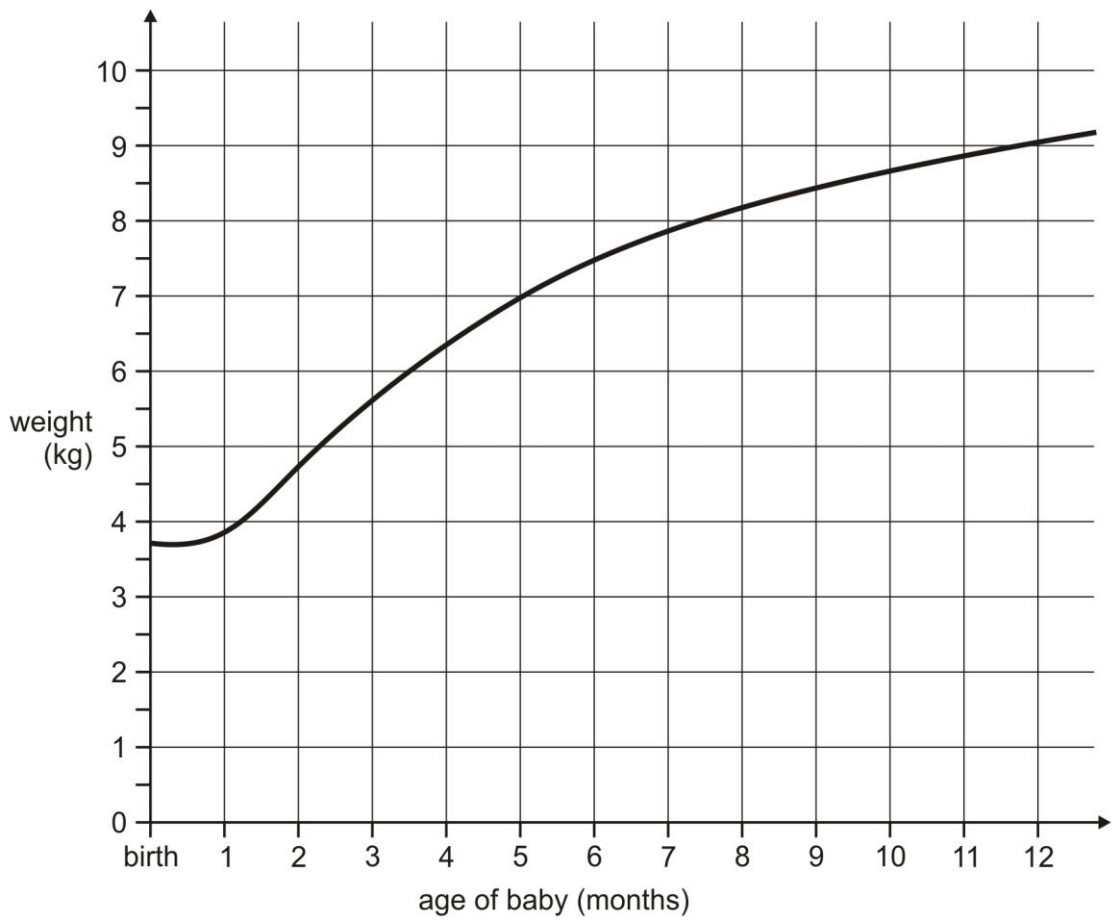
She catches the next train.

At what time will she arrive in Perth?

1 mark

Q6.

This graph shows how the weight of a baby changed over twelve months.



From the graph, what was the weight of the baby at **10 months**?

kg

1 mark

How much **more** did the baby weigh at 5 months than at birth?

kg

1 mark

Q7.



Mr Green sells apples
at 40p per **kilogram**.



Mrs Ball sells apples
at 24p per **pound**.

Work out who sells the cheaper apples.
Show how you worked it out.

Show
your
method

1 mark

Q8.



How many **days** old will the baby be when she has lived for **one million seconds**?

Show your method

days

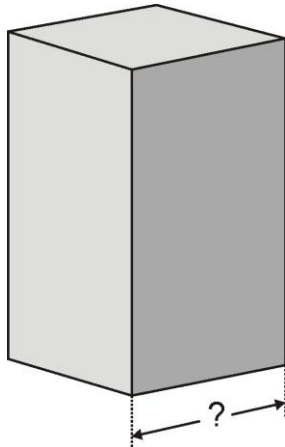
2 marks

Q9.

A cuboid has a **square base**.

It is **twice as tall** as it is **wide**.

Its volume is **250 cubic centimetres**.



Not actual size

Calculate the **width** of the cuboid.

Show your method

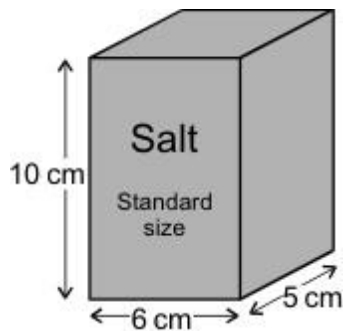
cm

2 mark

Q10.

Salt

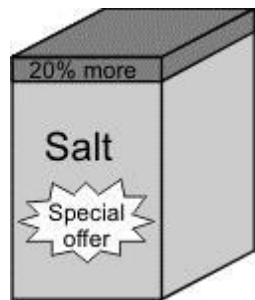
(a) What is the volume of this **standard size** box of salt?



cm³

1 mark

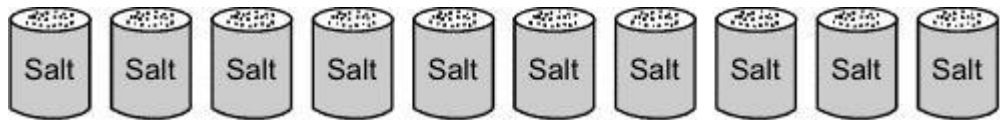
(b) What is the volume of this **special offer** box of salt, which is **20% bigger**?



cm³

2 marks

The **standard size** box contains enough salt to fill up **10** salt pots



(c) How many salt pots may be filled up from the **special offer** box of salt?

1 mark

Mark schemes

Q1.

10.5 (cm)

Accept $10\frac{1}{2}$

[1]

Q2.

An explanation that gives the correct values for PQ and/or QR, e.g.

- PQ = 640 m
- QR is 160, 160 times 4 is not 600 m
-



OR

An explanation recognising PR is 800 m and must be 5 times QR, e.g.

- the total distance is 800 m. Divide by 5 to give 160 for distance between Q and R, so P and Q is $4 \times 160 = 640$ m (not 600 m)
- if QR is 200 m, then PR is 1000 m not 800m
- if PQ is 600 m then QR is $800 - 600 = 200$ m. Then PR is $5 \times 200 = 1000$ m but it is only 800 m.

OR

An explanation that PQ is not 600 m, e.g.

- if it was 600 m then the shorter distance would be 200 m if added to make 800 m, 600 m is 3 times 200, not 4 times
- Olivia is not correct because $600 \div 4 = 150$ and $600 + 150$ doesn't equal 800
- Olivia is not correct because $800 - 600 = 200$ and 600 is not 4 times 200

Do not accept vague, incomplete or incorrect explanations, e.g.

- Olivia is not correct because you can't divide 600 by 4 like you can for 800

Do not accept explanations which include incorrect mathematics or incorrect information that is relevant to the explanation.

[1]

Q3.

(a) Answer in the range 76 cm to 78 cm inclusive.

1

(b) Answer in the range 3 cm to 5 cm inclusive.

1

[2]

Q4.

- (a) 57 min 15 sec

The answer is a time interval (see the guidance).

1

- (b) 44 min 40 sec

1

[2]

Q5.

- (a) 3 hours 35 minutes

*The answer is a time interval
(see guidance)*

1

- (b) 15:15

*The answer is a specific time
(see guidance)
Accept quarter past three*

1

[2]

Q6.

- (a) Any value in the range 8.6 to 8.8 inclusive.

1

- (b) Any value in the range 3.2 to 3.4 inclusive.

1

[2]

Q7.

Evidence of conversion from lbs to kg **OR** kg to lbs, such as multiplication or division by 2 or 2.2, eg:

- 24×2.2
- "There's more than 2 pounds in a kilogram so it will be about 50p for a kg of apples. So, Mr Green."
- "40p per kg is about 20p a pound."

No mark is awarded or forfeited for the name, Mr Green or Mrs Ball.

[1]

Q8.

11 **OR** 12 **OR** any value between 11.5 and 11.6 inclusive

2

or

Any value between 277 and 288 inclusive seen (*value takes account*

of seconds in a minute and minutes in an hour)

OR

Any value between 694 and 695 inclusive seen (*value takes account of hours in a day and either seconds in a minute or minutes in an hour*)

OR

Shows or implies a complete, correct method, eg:

- $1\,000\,000 \div 60 \div 60 \div 24$
- $1\,000\,000 \div 86\,400$
- $16\,666 \div 60 \div 24$

Do not accept place value errors in the value taken for one million in an otherwise correct method, eg:

$$100\,000 \div 60 \div 60 \div 24$$

1

[2]

Q9.

Award **TWO** marks for the correct answer of 5 cm

If the answer is incorrect award **ONE** mark for evidence of an appropriate method, eg

$$2n \times n \times n = 250$$

so

$$n \times n \times n = 125$$

*The calculation need not be completed for the award of the mark, but $n \times n \times n = 125$ **OR** $n^3 = 125$ must be reached.*

Up to 2

[2]

Q10.

(a) Indicates 300

Working need not be shown for the award of this mark.

Ignore use of cubed sign eg

- 300^3

Do not accept incorrect attempt to convert to different units
eg

- 3
- 30

1

(b) **For 2m** indicates 360.

For only 1m shows 60 as 20% of 300 in working or given 60 as volume of the box.

Working need not be shown for the award of any marks.

For 2m or 1m allow follow through from part (a), with correct rounding or truncation.

Award only 1m for correct calculation indicated but not evaluated or incorrectly evaluated eg

- $12 \times 6 \times 5 = 432$
- 1.2×300
- $300 \times 20 \div 100 + 300$

Do not accept height calculated as 12 with no further attempt to find the volume.

2

(c) Indicates 12 salt pots.

Working need not be shown for the award of this mark.

Allow follow through from part (a) or (b) with correct rounding or truncation.

Accept any indication eg

- 2 more salt pots drawn on diagram given.

Accept correct description eg

- 2 more salt pots.

Do not accept fractions of a salt pot.

Do not accept fewer than 10 salt pots eg

- 2 salt pots.

1

[4]