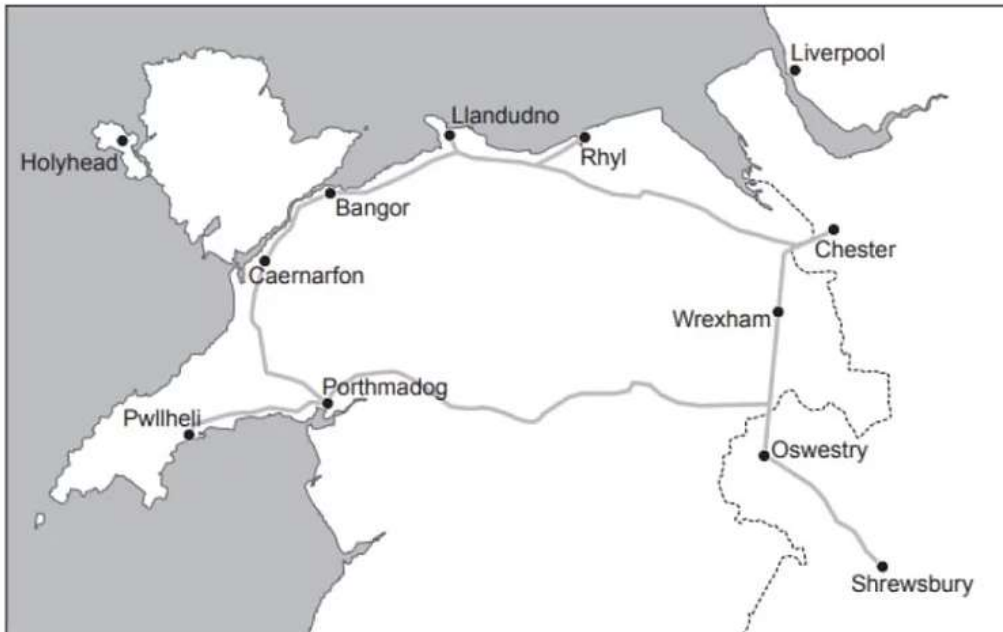## Intermediate Numeracy Nov 2019 P2 Q5

A map of north Wales and the border with England is shown below.
The distance between Wrexham and Oswestry is approximately 22 km by road.

(a)   The straight-line distance between Wrexham and Oswestry on the map is 2·2 cm.
Which of the following represents the scale of the map?
Circle your answer.   [1]

   1 : 10   1 : 1000   1 : 10000   1 : 100 000   1 : 1 000 000

(b)   Lauren travels by road directly from Wrexham to Oswestry.
This journey takes 25 minutes.
Calculate the average speed for Lauren's journey.
Give your answer in km/h.   [3]

_____

Intermediate Maths Summer 2019 P2 Q4

Catrin makes the following statement.

> If you double the length of each side of a rectangle, you
> will double its perimeter and also double its area.

Is Catrin correct?
Show clearly, using an example, how you came to your decision.   [5]

_____

Intermediate Numeracy Summer 2019 P2 Q7b

(i) The internal measurements of a tin of baked beans are:
 - radius 3·6 cm,
 - height 9·3 cm.

(b) A mathematically similar tin of baked beans has a radius of 4·2 cm.

Diagram not drawn to scale

Calculate the height of the larger tin of beans.   [2]

Intermediate Numeracy Summer 2018 P1 Q7

Macy and Gareth are planning a bike ride.
They have a map with a scale of 1:50 000.

Gareth suggests a route that measures a total of 48 cm on the map.

Macy says she could cycle up to 13 miles.
Will Macy be able to cycle the route Gareth is suggesting?
You must show all your working and give a reason for your answer.   [5]

Intermediate Numeracy Nov 2016 P2 Q7b

The Headteacher decides to place signs around the school site to stop pupils using their bikes on grassed areas.

He introduces a new sign to pupils in the school newsletter.
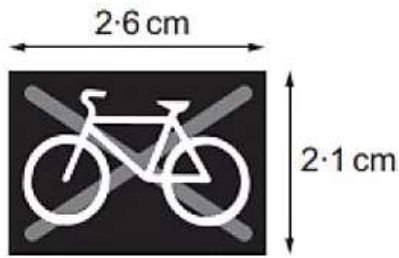The size of the sign in the newsletter is shown below.

2·6 cm

2·1 cm

Diagram not drawn to scale

\ mathematically similar new sign is placed near the side of the playing field.

33·6 cm

Diagram not drawn to scale

It is 33·6 cm high.
How wide is this sign?   [2]

_____

Intermediate Numeracy Summer 2018 P2 Q9b
Yared is going to make a door wedge.

(a)   The cross-section of the wedge is shown below.
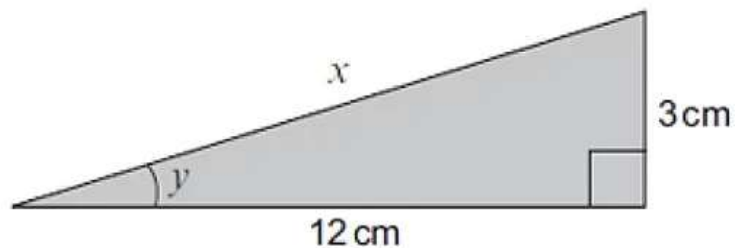   The horizontal length is 12 cm and the vertical height is 3 cm.

x

3 cm

y

12 cm

Diagram not drawn to scale

(b)   Yared decides to make a larger wedge that is mathematically **similar** to the one shown in part *(a)*.
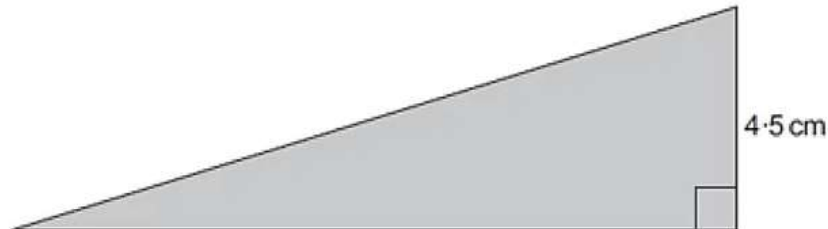This wedge is to have a vertical height of 4·5 cm.

4·5 cm

Diagram not drawn to scale

Calculate the horizontal length of this door wedge.   [2]

_____

Intermediate Numeracy Nov 2018 P1 Q9c
Jade needs a new passport photograph.
A passport photograph must be 45 mm high by 35 mm wide.

Jade has a mathematically similar photograph that she could reduce in size to use as her new passport photograph.
The height of this photograph is 9 cm.
Calculate the width of this photograph.   [2]

_____

Intermediate Numeracy Nov 2018 P1 Q10b
The picture shows a mountain hut.
The hut
  •   stands on a rectangular base,
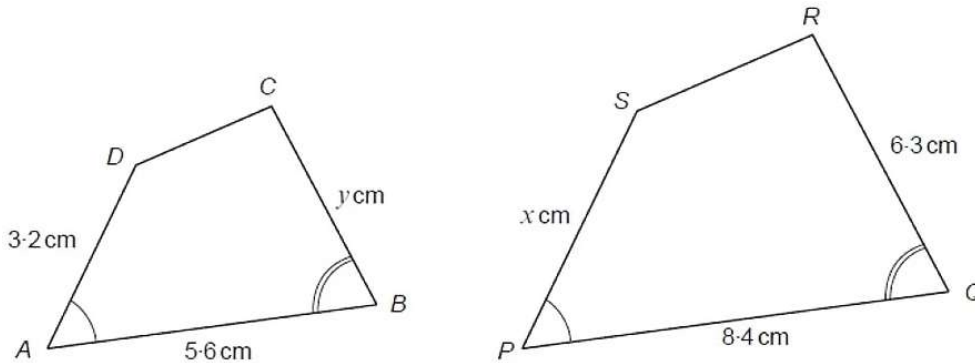 •   has a uniform cross-section.

(a)   Draw a sketch of the plan view of the mountain hut.   [1]

(b)   This mountain hut is shown on a map.
The scale of the map is 1 : 50 000.
On the map the mountain hut is 4·2 cm from a farmhouse.
How far away is the hut from the farmhouse?
Give your answer in km.   [3]

_____

Intermediate Maths Summer 2018 P2 Q17

The diagrams below show two similar shapes, *ABCD* and *PQRS*.

Diagrams not drawn to scale

(a) Calculate the value of x.   [2]

(b) Calculate the value of y.   [2]

(c) Explain clearly why the following statement cannot be true.   [2]

'The length of *CD* is 3·9 cm and the length of *RS* is 6·5 cm'.

_____

Intermediate Numeracy Nov 2019 P1 Q13

Mr Aston lives at 137 Ffordd Uchel.
He is ordering some new signs for his house and for his gatepost from a website.

Diagram not drawn to scale

All the signs available on the website are **mathematically similar.**

He selects a rectangular sign for the front of his house.
It has a length of 42 cm and a height of 24 cm.
The digits 1, 3 and 7 on the sign are all 18 cm high.

The rectangular sign Mr Aston is considering for his gatepost has a height of 20 cm.

(a) Calculate the height of the digits 1, 3 and 7 on the sign Mr Aston is considering for his gatepost.   [2]

Height of the digits 1, 3 and 7 is .... cm

(b) Mr Aston's gatepost is 30 cm wide.
Will the sign he is considering fit his gatepost?

Yes [ ]   No [ ]

You must show all your working and give a reason for your answer.   [3]