SCALE DRAWINGS

Pearson Edexcel - Friday 6 November 2015 - Paper 2 (Calculator) Higher Tier

1.

9

A ————————————————————— B

Use ruler and compasses to **construct** the perpendicular bisector of the line segment *AB*.
You must show all your construction lines.

(**Total for Question 9 is 2 marks**)

Pearson Edexcel - Monday 8 June 2015 - Paper 2 (Calculator) Higher Tier

2.

10 Here is a scale drawing of an office.
   The scale is 1 cm to 2 metres.

A photocopier is going to be put in the office.
The photocopier has to be closer to *B* than it is to *A*.
The photocopier also has to be less than 8 metres from *C*.

Show, by shading, the region where the photocopier can be put.

(Total for Question 10 is 3 marks)

Pearson Edexcel - Wednesday 5 November 2014 - Paper 1 (Non-Calculator) Higher Tier

3.

10 Use ruler and compasses to **construct** the perpendicular from point C to the line AB.
You must show all your construction lines.

C ×

B

A
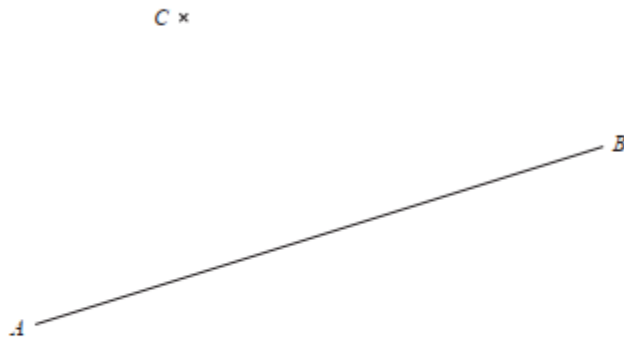
(Total for Question 10 is 2 marks)

Pearson Edexcel - Monday 9 June 2014 - Paper 1 (Non-Calculator) Higher Tier

4.

8   The diagram shows a garden in the shape of a rectangle.

The scale of the diagram is 1 cm represents 2 m.

Scale: 1 cm represents 2 m

Irfan is going to plant a tree in the garden.
The tree must be

more than 3 metres from the patio
and   more than 6 metres from the centre of the pond.

On the diagram, shade the region where Irfan can plant the tree.

(Total for Question 8 is 3 marks)

Pearson Edexcel - Wednesday 6 November 2013 - Paper 1 (Non-Calculator) Higher Tier
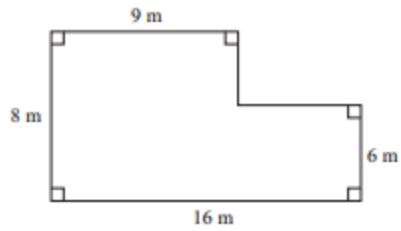
5.

*10 The diagram shows the floor of a village hall.

9 m

Diagram **NOT**
accurately drawn

8 m

6 m

16 m

The caretaker needs to polish the floor.

One tin of polish normally costs £19
One tin of polish covers 12 m² of floor.

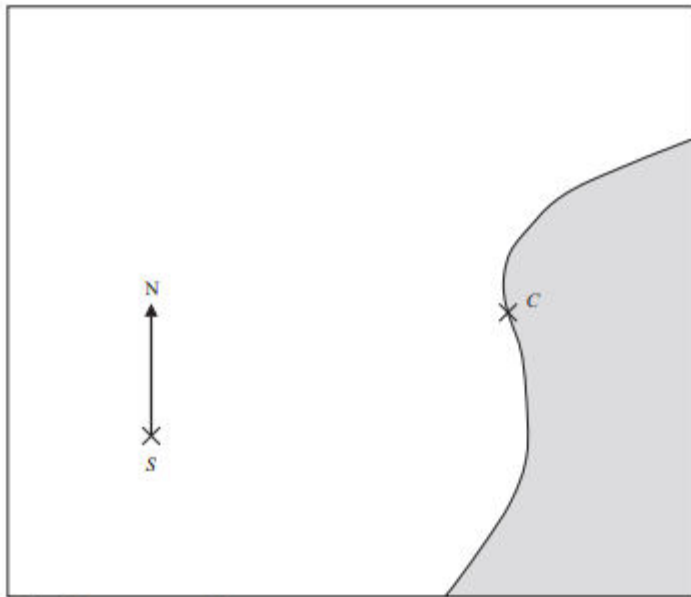There is a discount of 30% off the cost of the polish.

The caretaker has £130

Has the caretaker got enough money to buy the polish for the floor?
You must show all your working.

(Total for Question 10 is 5 marks)

Pearson Edexcel - Tuesday 11 June 2013 - Paper 1 (Non-Calculator) Higher Tier

6.

*13 Here is a map.
The position of a ship, S, is marked on the map.

Scale   1 cm represents 100 m

Point C is on the coast.
Ships must not sail closer than 500 m to point C.

The ship sails on a bearing of 037°

Will the ship sail closer than 500 m to point C?
You must explain your answer.

Pearson Edexcel - Thursday 28 February 2013 - Paper 1 (Non-Calculator) Higher Tier

7.

15 Here is a scale drawing of a rectangular garden $ABCD$.

A [rectangle with corners labelled: A top-left, B top-right, D bottom-left, C bottom-right]
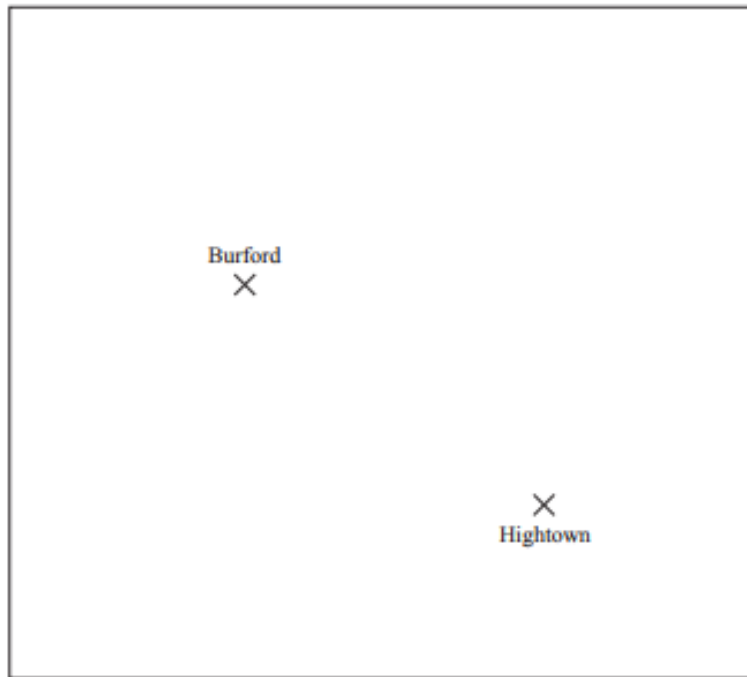
Scale: 1 cm represents 1 metre.

Jane wants to plant a tree in the garden

at least 5 m from point C,
nearer to AB than to AD
and less than 3 m from DC.

On the diagram, shade the region where Jane can plant the tree.

(Total for Question 15 is 4 marks)

Pearson Edexcel - Tuesday 6 November 2012 - Paper 1 (Non-Calculator) Higher Tier

8.

10 Here is a map.

The map shows two towns, Burford and Hightown.

Burford
×

×
Hightown

Scale: 1 cm represents 10 km

A company is going to build a warehouse.

The warehouse will be less than 30 km from Burford **and** less than 50 km from Hightown.

Shade the region on the map where the company can build the warehouse.

(Total for Question 10 is 3 marks)

OCR GSCE – Tuesday 5 November 2019 – Paper 6 (Calculator) Higher Tier

9.

13 (a) A transport lorry consists of a cab and a trailer.
The trailer has a volume of $90\,m^3$.
Alfie makes a model of this lorry using a scale of 1 : 72.

Work out the volume of the trailer in Alfie's model, giving your answer in cm^3.

(a) .... cm^3 [3]

(b) Alfie paints his model lorry.
He has eight colours available.

He decides to paint the cab in one colour and the trailer in a different colour.

He then wants to paint his name on the trailer.
The name must be in a different colour to the trailer.

In how many different ways can Alfie paint his model lorry?

(b) .... [3]

9 **(a)** The scale 1 cm represents 25 m can be written in the form 1 : k.

Find the value of k.

(a) k = ... [1]

(b) The scale drawing represents a harbour.

Scale: 1cm represents 25m
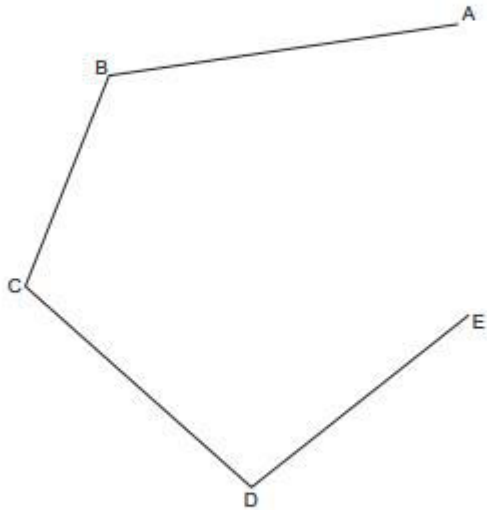
A boat leaves the harbour from point C and sails on a path that is equidistant from BC and CD. The harbour rules do not allow boats to sail within 75 m of point E.
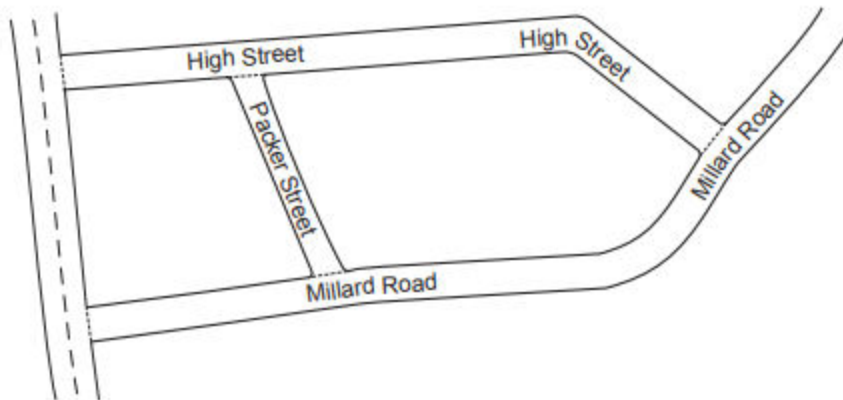
Find by construction whether the path of the boat will follow the harbour rules. Show all your construction lines.

-- [5]

11.

5   This map shows part of a village.

Neil knows that Packer Street is 180 m long in real life.

(a) Neil measures the map.

He says

    Packer Street is 3.5 cm long.
    High Street is 11.2 cm long.

    Therefore, I calculate that High Street is 576 m long in real life.

Use Neil's figures to show that the answer to his calculation is correct.   [3]

(b) Jodie measures the same map.

She says

> I think Packer Street is longer than Neil's measurement of 3.5 cm.
> Therefore, High Street must be longer than 576 m in real life.

Is Jodie's reasoning correct?
Show how you decide.

.... **[2]**

(c) On another map, Packer Street is 2.4 cm long.

Express the scale of this map in the form 1 : *n*.

(c)   1 : .... **[2]**

5   The scale diagram below shows two cities, P and Q.

Scale: 1 cm represents 125 km

P.

.Q

A plane departs from P at 09 47 and arrives at Q at 12 07.

(a) Work out the average speed, in kilometres per hour, of the plane.

(a) .... km/h **[5]**

(b) Give one reason why your answer may be inaccurate.

....

.... **[1]**

13.

7 The scale diagram below shows towns, A, B and C.
Line AB represents the road from A to B and line AC represents the road from A to C.

A shopping centre is to be built so that it is

- nearer to the road from A to B than the road from A to C,
- less than 14 km from town C.

(a) Using construction, shade the region where the shopping centre could be built.
Show all your construction lines.

Scale: 1 cm represents 2 km
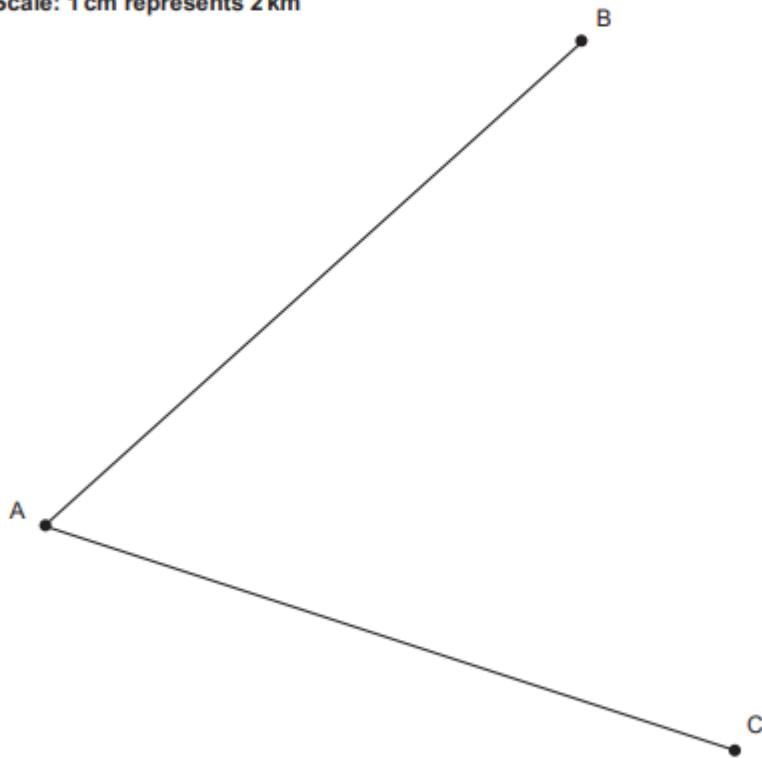
[5]

(b) Explain why the region found in part (a) may not be an appropriate site for the shopping centre.

....

.... [1]

2 **(a)** The scale of a map is 1 cm represents 25 m.

    (i) The length of a path is 240 m.

        Work out the length, in centimetres, of the path on the map.
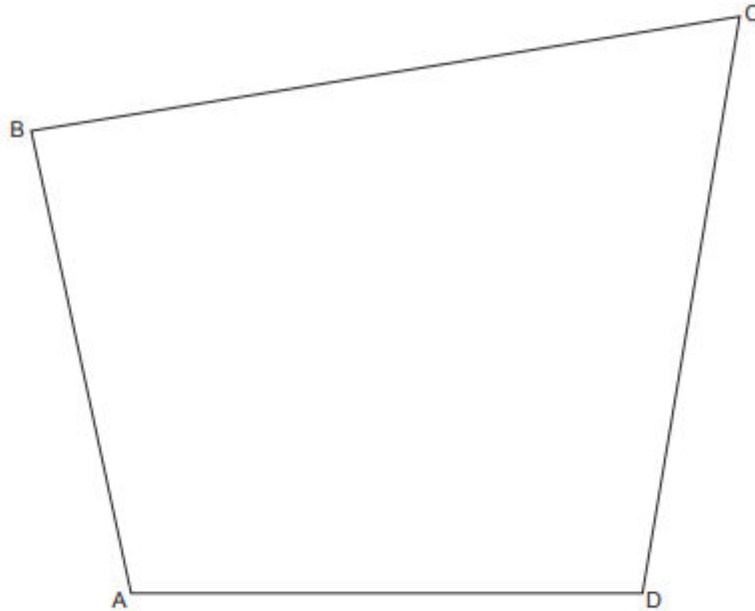
        (a)(i) ....cm **[1]**

    (ii) The scale 1 cm represents 25 m can be written in the form 1 : k.

        Find the value of k.

        (ii) $k =$ .... **[1]**

(b) The scale drawing represents a park.

    Scale: 1 cm represents 25 m

A new play area must be

• no more than 150 m from B
• closer to AD than to CD.

Construct and shade the region where the play area can be positioned.
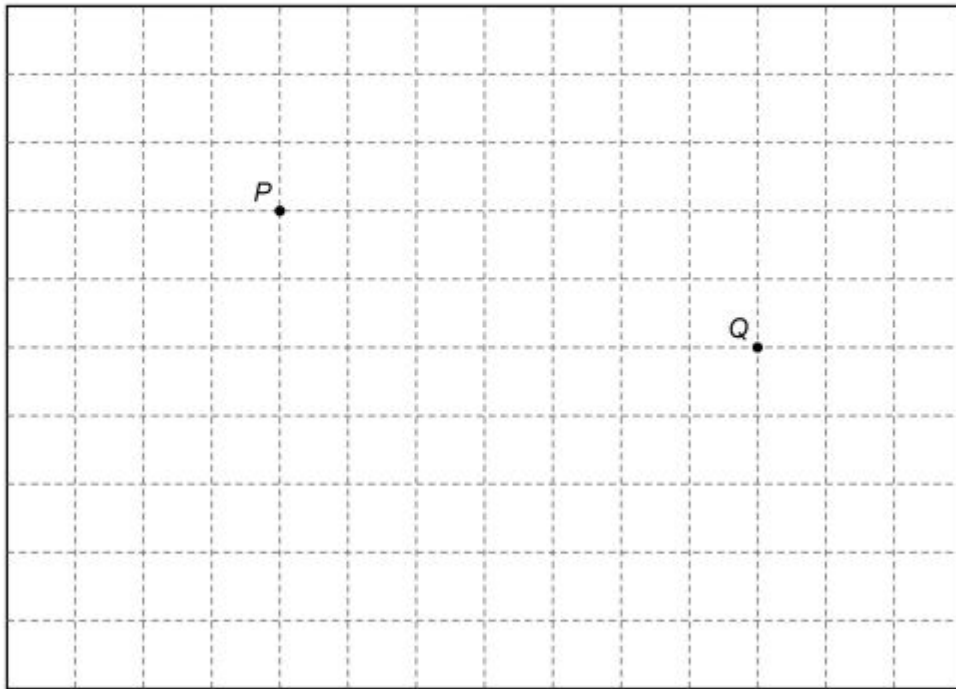Show all your construction lines. **[5]**

14   The scale drawing represents a garden.

Water from a sprinkler at *P* reaches up to 20 metres from *P*.
Water from a sprinkler at *Q* reaches up to 25 metres from *Q*.

Scale: 1 cm represents 5 m

Using a pair of compasses,
      show the region that water from **both** sprinklers reaches.

[2 marks]