Name:

Exam Style Questions

Loci

Corbettmaths

Equipment needed: Pen, pencil, ruler, pair of compasses

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

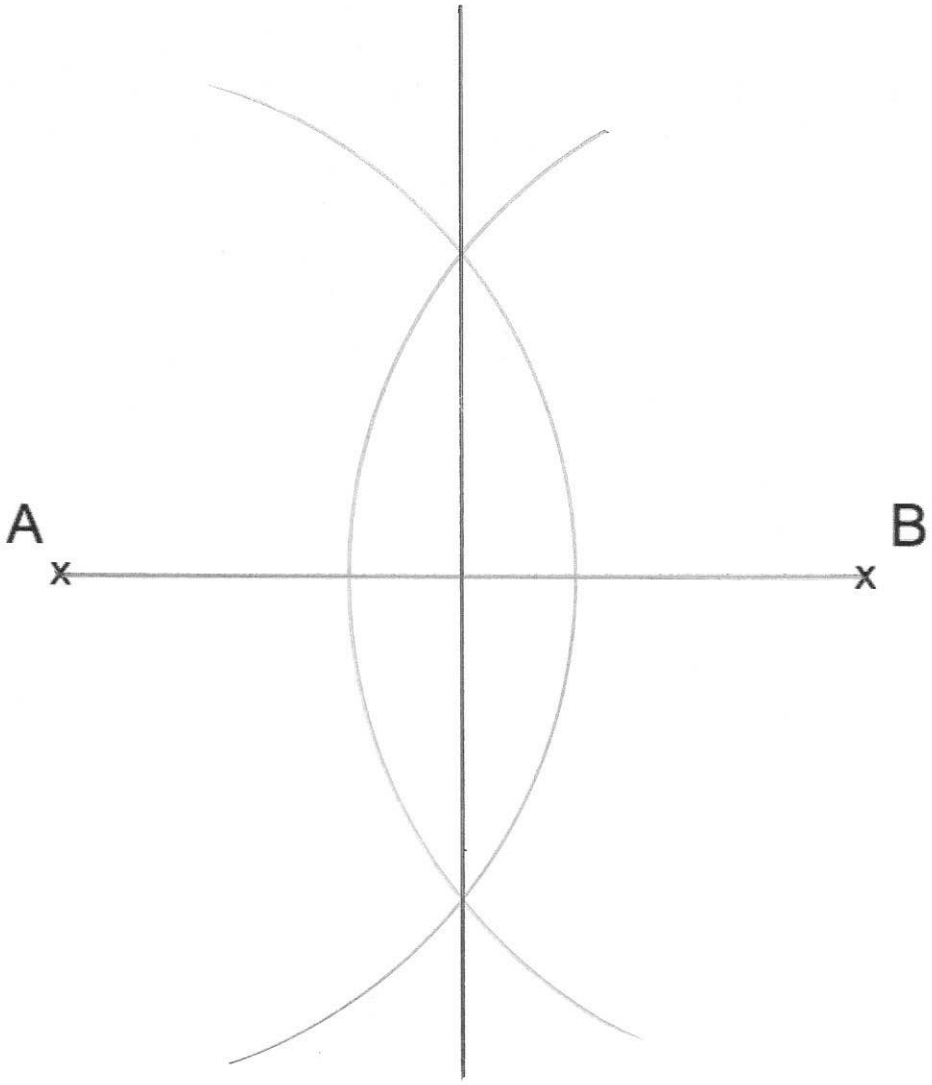
Video Tutorial

www.corbettmaths.com/contents

Videos 75, 76, 77

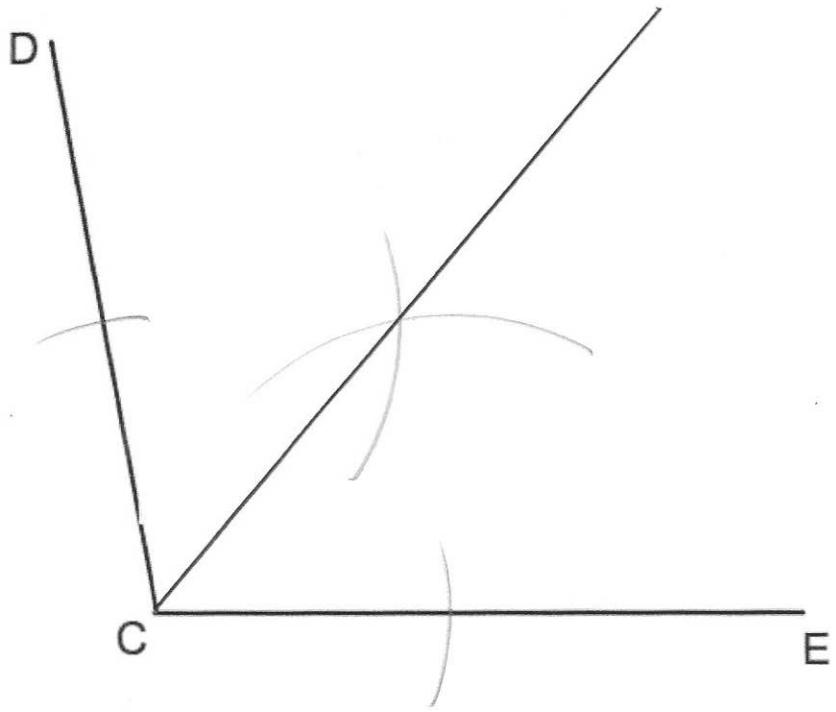
Answers and Video Solutions

1. Draw the locus of all points which are equidistant from points A and B.



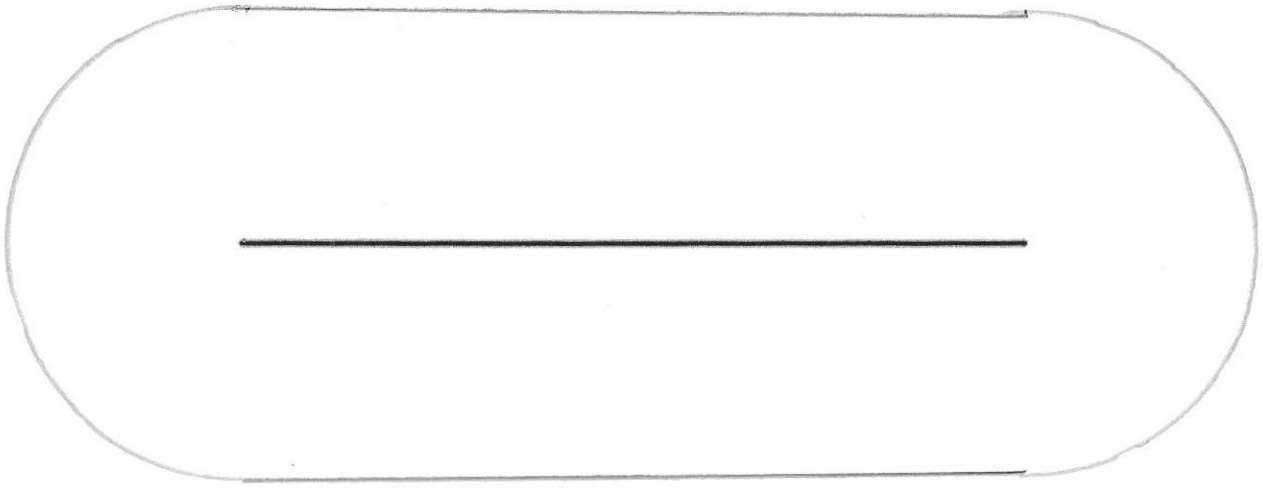
(2)

2. Draw the locus of all points which are equidistant from lines CD and CE.



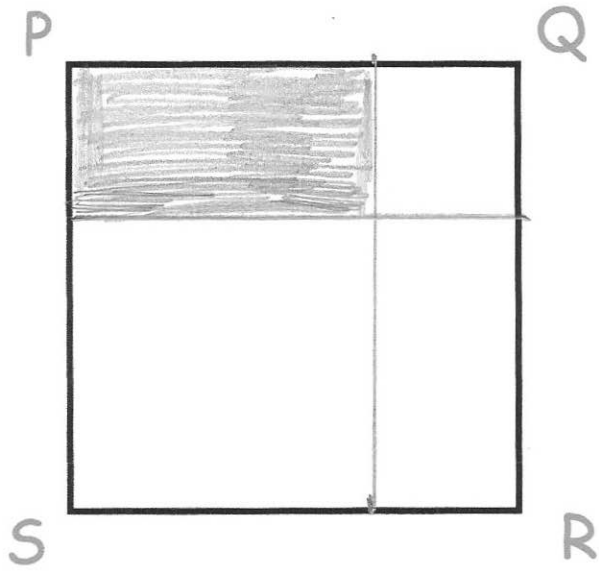
(2)

3. Draw the locus of all points 3cm from the line below.



(3)

4. PQRS is a square.



*Also accept dashed/dotted lines.

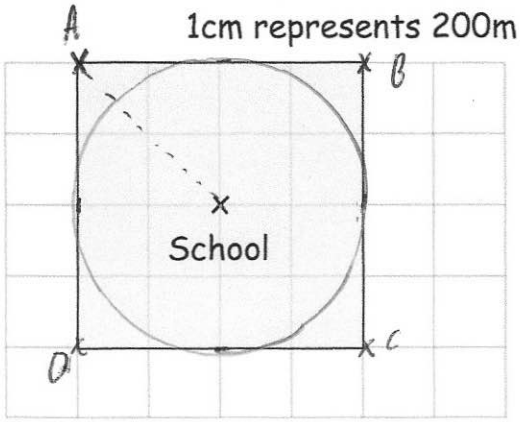
Shade the region in the square that is

less than 4cm from PS and less than 2cm PQ.

(2)

5. A bus station is within 400 metres of a school.

Edward has drawn the diagram below to show the possible locations of the bus station.

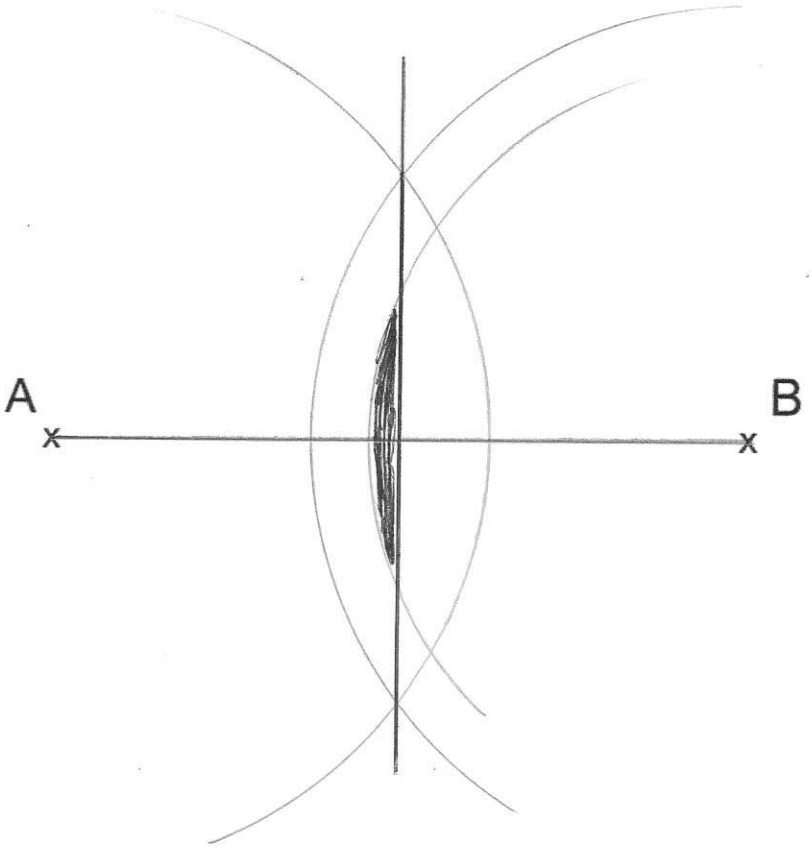


Is Edward's diagram correct?
Explain your answer.

No, the points A, B, C & D are more than 400m from the school.
Edward should have drawn a circle, radius 2cm (400m).

(2)

6. A and B are two points.

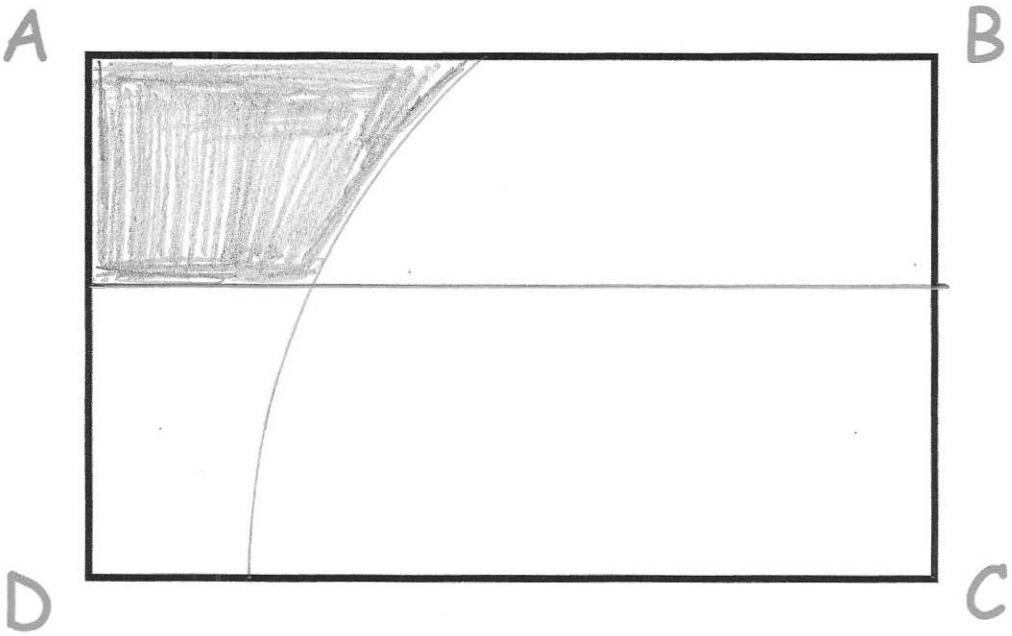


*Also accept dashed/dotted perpendicular bisector and dashed arc 5cm from B.

Shade the region which contains those points which are both closer to A than to B, and less than 5cm from B.

(2)

7. ABCD is a rectangle



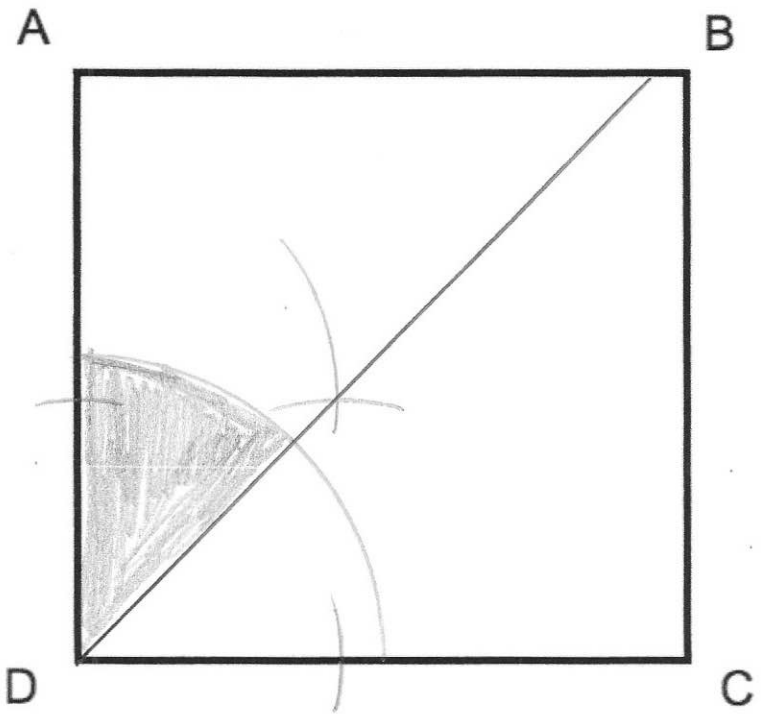
*Also accept dashed/dotted line and arc

Shade the region inside ABCD that is

less than 3cm from the line AB and more than 9cm from the point C

(3)

8. ABCD is a rectangle.

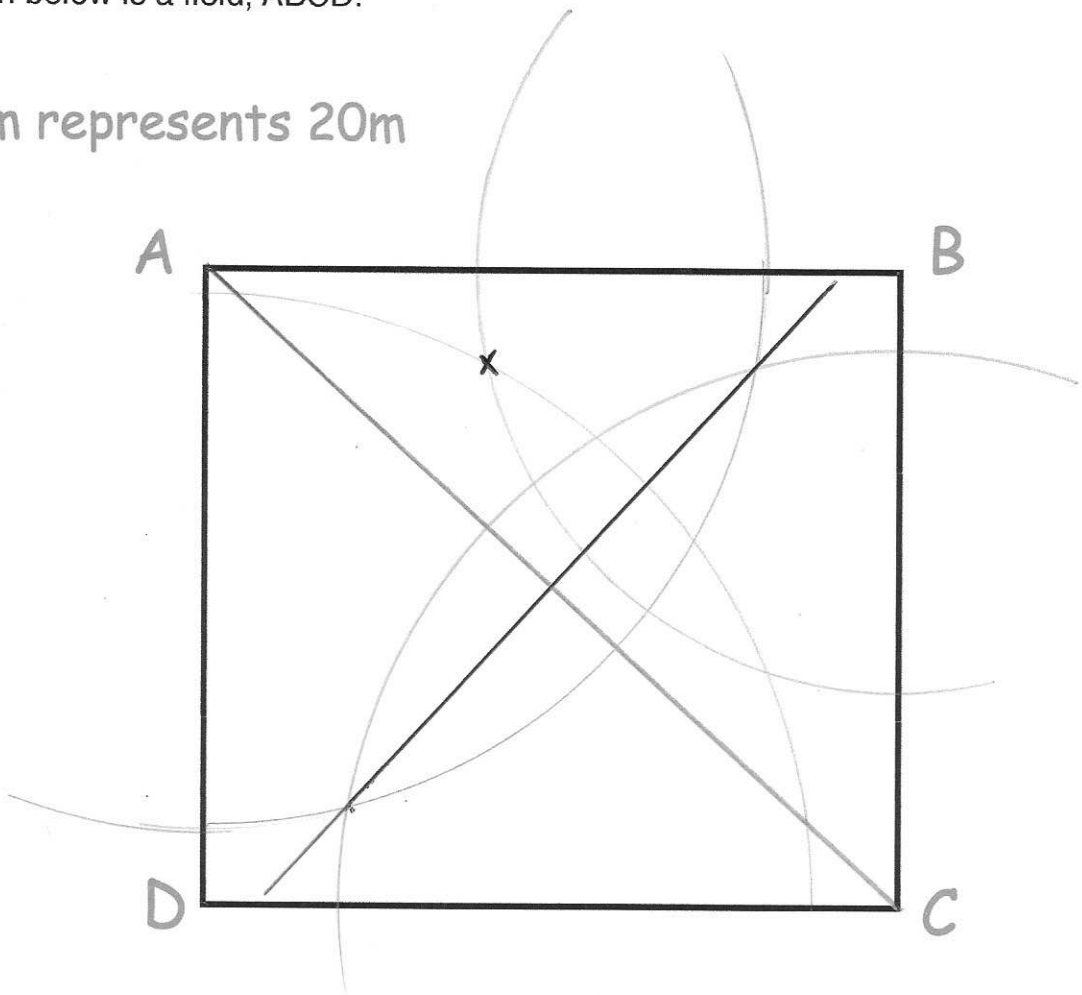


*Also accept dashed/dotted line

Shade the region inside the rectangle, which is closer to AD that DC, and less that 4cm from D.

(3)

9. Shown below is a field, ABCD.



A golf ball lands in the field such that

it is closer to A than C

it is exactly 110m from B and exactly 160m from D

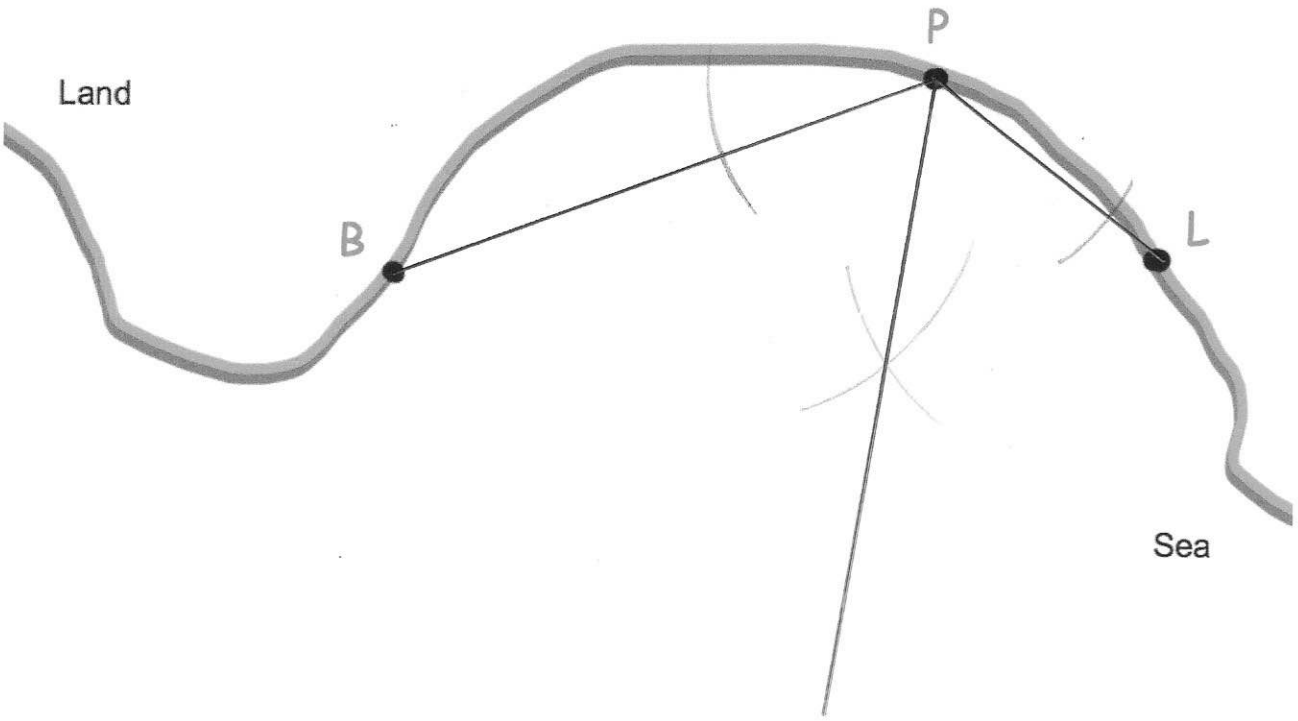
Show on the diagram where the ball lands.

$110 \div 20 = 5.5$ cm

$160 \div 20 = 8$ cm

(3)

10.

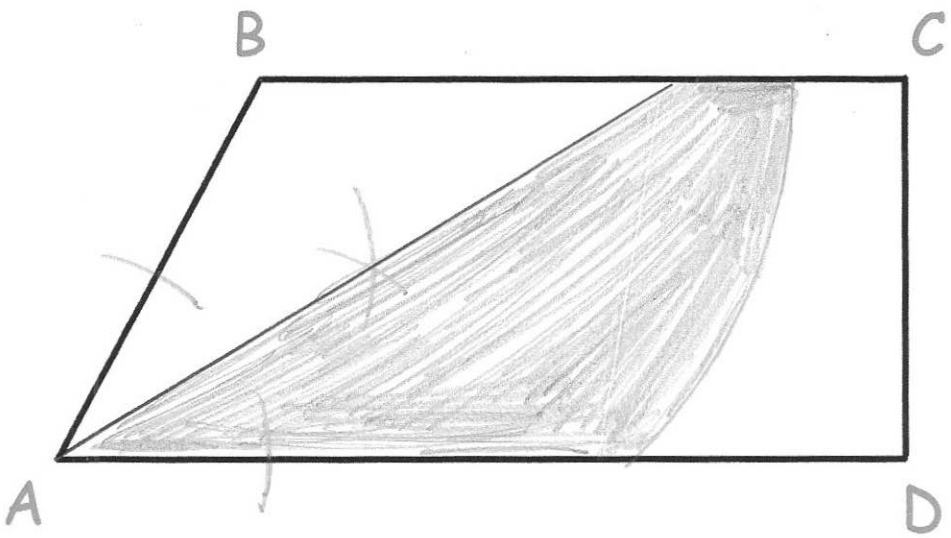


A yacht leaves the port, P, on a course that is an equal distance from PB and PL.

Using ruler and compasses only, construct the course on the diagram.
You must show your construction arcs.

(2)

11. Here is a diagram of Henry's garden.



*Also accept dashed/dotted line and arc.

Henry is going to place a sundial in his garden such that

it is closer to AD than AB

it is less than 28m from B

Shade the region on the diagram where Henry can put the sundial.

$28 \div 4 = 7$cm

(4)

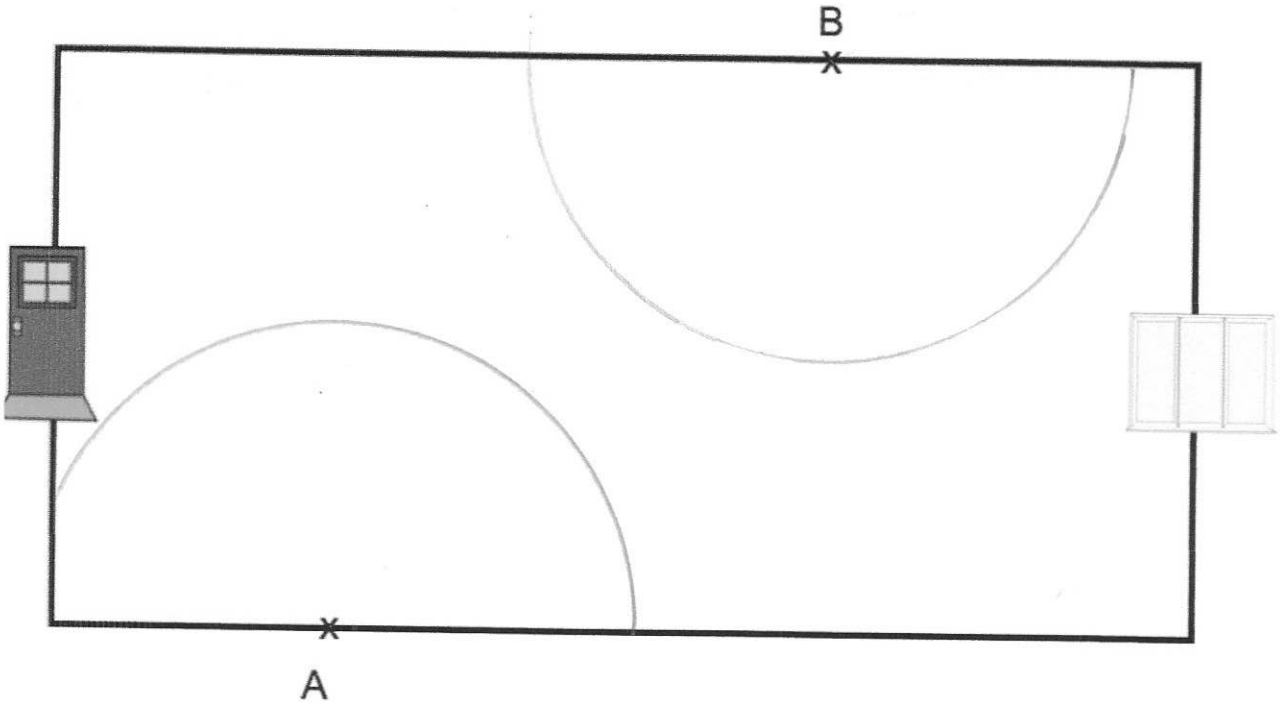
12. Below is a diagram of a hall.

There is a front door at one end of the hall and a patio door at the other.
There are two burglar alarm sensors, one at A and one at B.

The range of each sensor is 4m.

4cm

1cm = 1 metre



The alarm is switched on.

Is it possible to walk from the front door to the patio door without setting off the alarm?

yes, it is possible.

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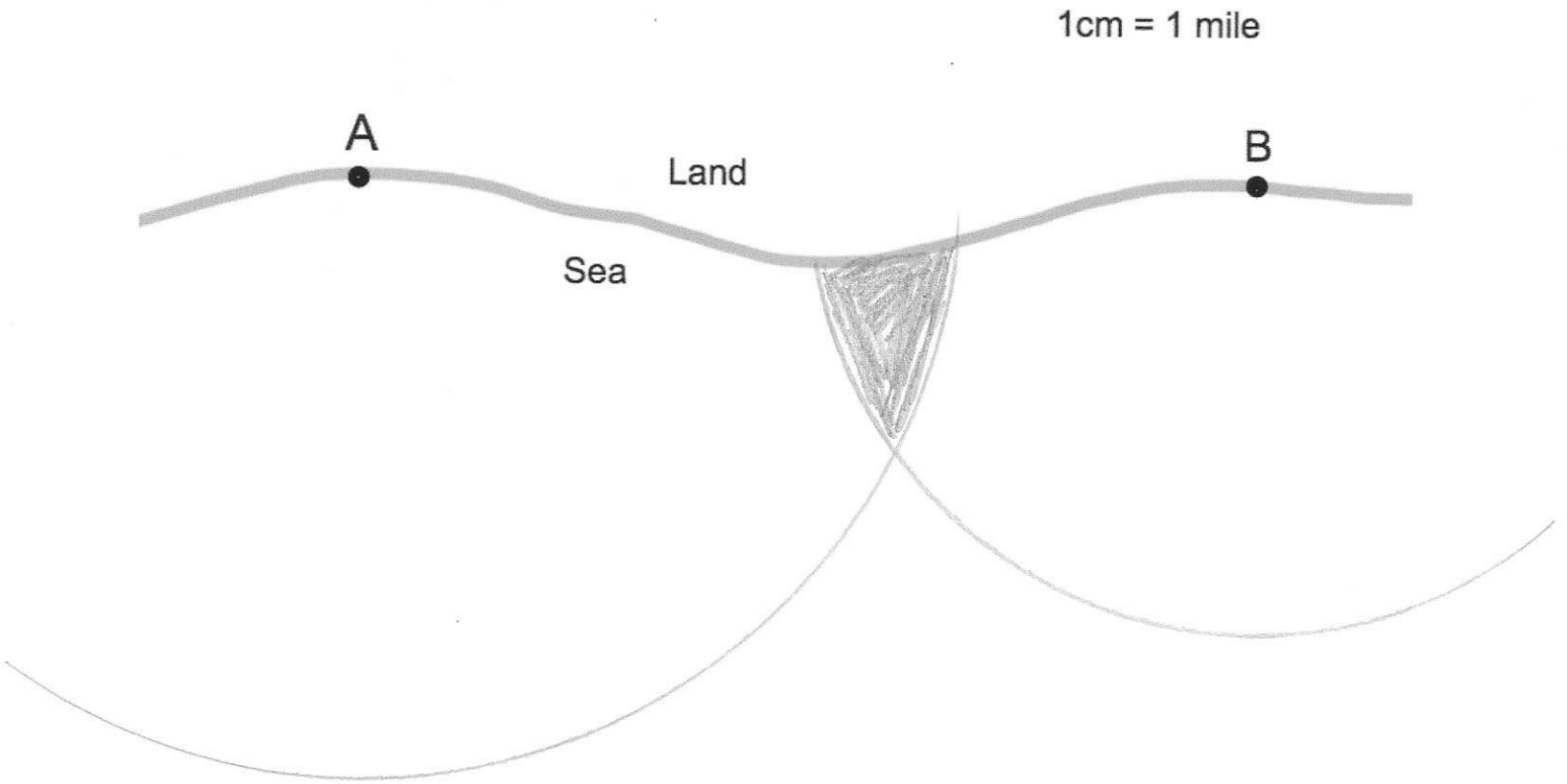
(3)

13. The diagram shows two lighthouses.

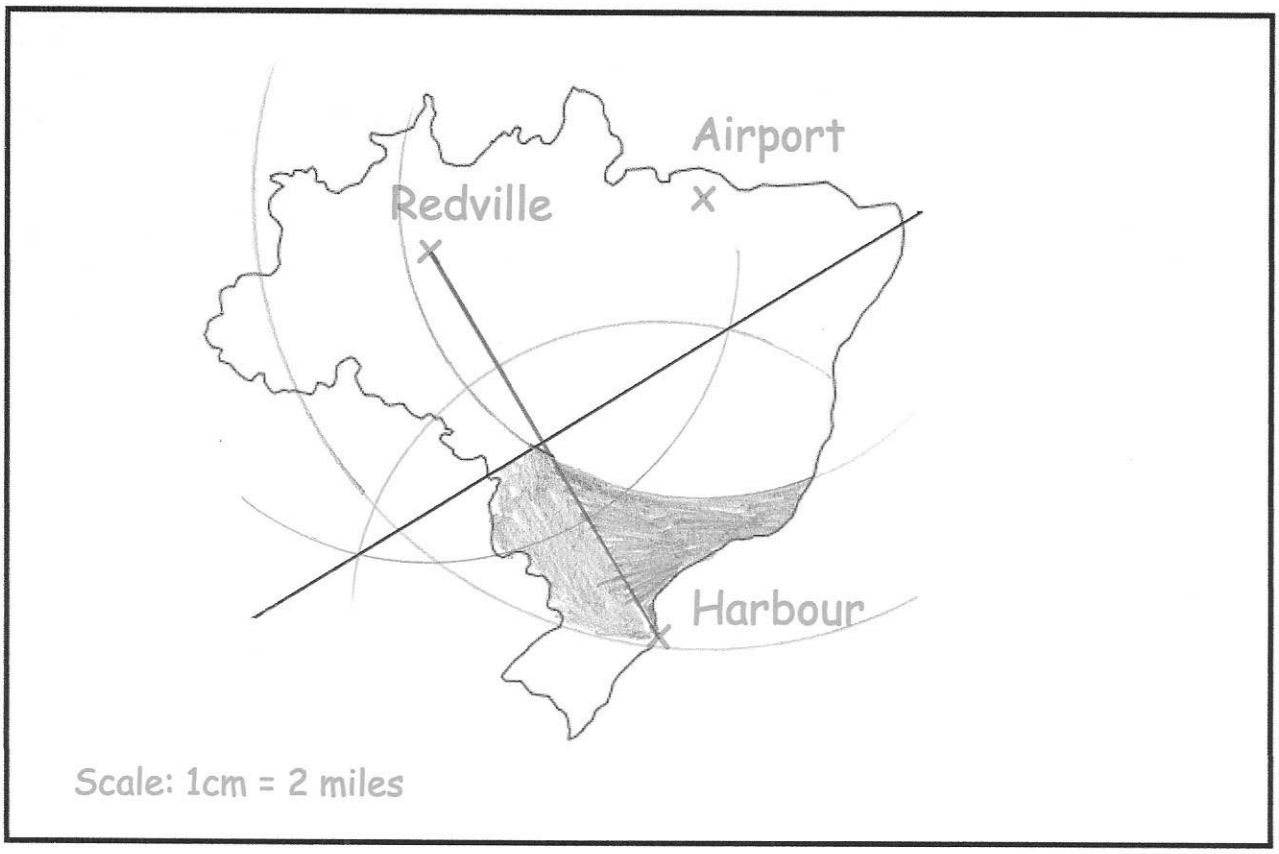
A boat is within than 8 miles of lighthouse A. 8cm
The same boat is within 6 miles of lighthouse B. 6cm

Shade the possible area in which the boat could be.



(2)

14. Shown below is the map of an island.



*Accept dashed/dotted line and arcs.

A recycling centre is going to be built such that it is

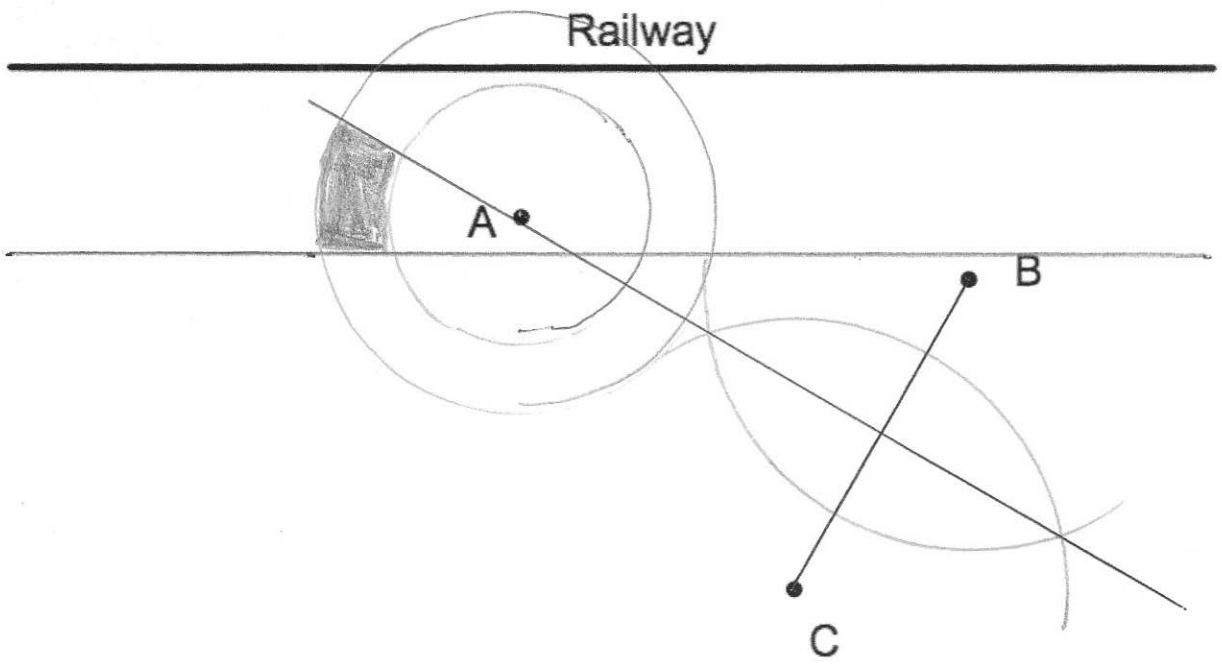
closer to the harbour than to Redville.

between 8 and 12 miles from the airport. 4cm & 6cm

Show the region where the recycling centre can be built.

(4)

15. A phone box is located near three houses, A, B and C.



*Accept dashed/dotted lines and arcs.

The phone box is less than 500m from the railway track. 2.5cm
The phone box is between 300m and 500m from house A. 1.5cm e 2.5cm.
The phone box is closer to house C than house B.

Shade the region on the map where the phone box could is located.

(5)