4.15 Loci and Construction: 10-minute Pack

EDEXCEL 1MA1 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Write down the locus of points that are exactly 3 cm from point A.

(Total for Question 1 is 1 mark)

---

2 State a simple compass-and-straightedge construction to find the midpoint of segment AB.

(Total for Question 2 is 1 mark)

---

3 AB = 8 cm. M is the midpoint of AB. Work out the length AM.

(Total for Question 3 is 2 marks)

---

4 Draw a straight line segment AB of length 7 cm. Using a ruler and compasses only, construct the perpendicular bisector of AB. You must show all your construction lines.

(Total for Question 4 is 2 marks)

---

5 An angle measures 74 degrees. A student bisects it with ruler and compass. Work out the size of each angle after bisecting.

(Total for Question 5 is 2 marks)

© Revision Library | revisionlibrary.co.uk

Mark scheme · 4.15 Loci and Construction: 10-minute Pack

Question 1

circle centre A radius 3 cm cao	**B1**

Answer: A circle centre A radius 3 cm (the circle itself).

Question 2

draw equal-radius arcs from A and B to make two intersection points; join intersections; intersection with AB is midpoint cao	**B1**

Answer: With compass draw equal-radius arcs from A and B to make two intersections; join those intersections with a straight line; where that line meets AB is the midpoint.

Question 3

take half of 8 or state AM = AB/2	**M1**
4 cm cao	**A1**

Answer: 4 cm

Question 4

two pairs of intersecting arcs of equal radius (radius greater than half of AB), one pair centred on A and one pair centred on B	**C1**
correct straight line drawn through both points of intersection, extending beyond AB, within 2 mm and 2 degrees of the true perpendicular bisector	**A1**

Answer: A straight line perpendicular to AB, passing through its midpoint, 3.5 cm from both A and B.

Question 5

divide 74 by 2	**M1**
37 degrees cao	**A1**

Answer: 37 degrees and 37 degrees

© Revision Library | revisionlibrary.co.uk