4. **In this question you must show all stages of your working.**
Solutions relying on calculator technology are not acceptable.

The point $A(-1, 8)$ and the point $B(7, 2)$ lie on the line L_1

(a) Find an equation for L_1 in the form $ax + by + c = 0$, where a, b and c are integers.

(3)

The line L_2

- passes through A and is perpendicular to L_1
- cuts the x-axis at the point C

(b) Find the coordinates of C.

(3)

(c) Hence find the area of triangle ABC.

(3)

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Question 4 continued

Question 4 continued

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Question 4 continued

(Total for Question 4 is 9 marks)

5. **In this question you must show all stages of your working.**
Solutions relying entirely on calculator technology are not acceptable.

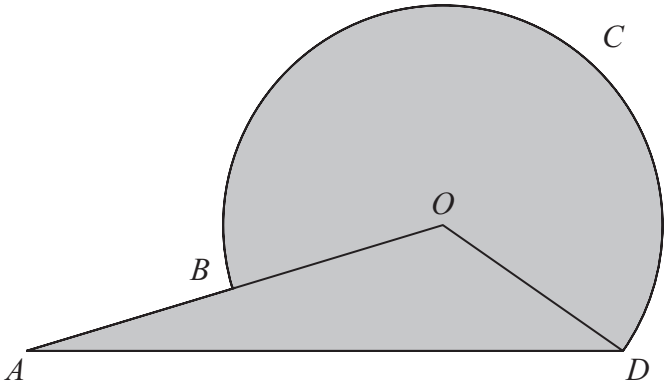


Diagram NOT to scale

Figure 2

Figure 2 shows the logo for the tourist board of an island.

The logo consists of a sector $BODCB$ of a circle centre O joined to a triangle AOD.

Given that

- ABO is a straight line
- $OD = 3$ cm
- $AD = 8$ cm
- angle $AOD = 2.5$ radians

(a) show that angle ODA is 0.415 radians to 3 significant figures.

(3)

(b) Find the total area of the logo, in cm^2, to one decimal place.

(3)

(c) Find the perimeter of the logo, $ABCDA$, in cm, to one decimal place.

(3)

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