Exercise 2

Paper 1 style · No calculator

2 5 marks SL 3.4 ●○○ Routine

A sector of a circle has radius 8 cm and angle 1.5 radians.

(a) Find the length of the arc. [2]

(b) Find the perimeter of the sector. [1]

(c) Find the area of the sector. [2]

The markscheme is on the next page: try the question first. Written and verified by a practising IB mathematics teacher, produced with AI assistance; solved twice and recomputed by software. Not affiliated with or endorsed by the International Baccalaureate Organization.
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MARKSCHEME (a)

$l = 8 \times 1.5$ (M1)

12 cm A1

Total 2 marks

MARKSCHEME (b)

$8 + 8 + 12 = 28$ cm A1

Total 1 mark

MARKSCHEME (c)

$\frac{1}{2} \times 8^2 \times 1.5$ (M1)

48 cm^2 A1

Total 2 marks