TRIGONOMETRY (Q 5, PAPER 2)
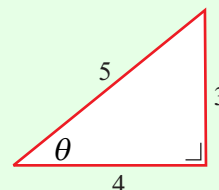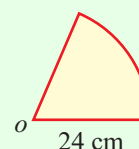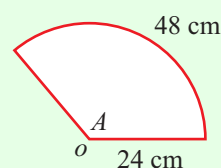
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5 (a) Use the information given in the diagram to show that
$$\sin\theta + \cos\theta > \tan\theta.$$

(b) A circle has radius 24 cm and centre o.
   (i) Calculate the area of a sector which has $70°$ at o.
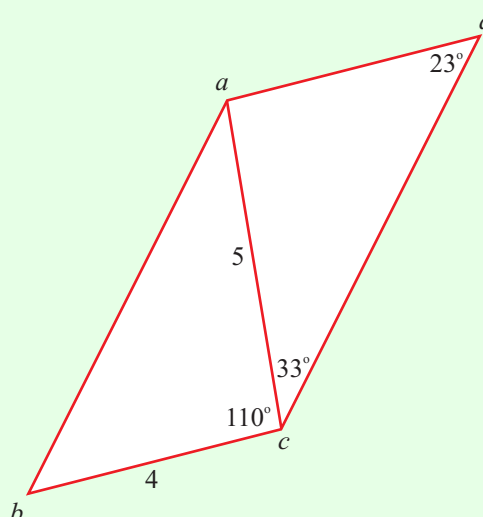
   Take $\pi = \frac{22}{7}$.

   (ii) An arc of length 48 cm subtends an angle A at o.
   Calculate A, correct to the nearest degree.

(c) In the quadrilateral $abcd$, $|ac| = 5$ units,
   $|bc| = 4$ units, $|\angle bca| = 110°$, $|\angle acd| = 33°$

   and $|\angle cda| = 23°$.
   (i) Calculate $|ab|$, correct to two decimal
   places.

   (ii) Calculate $|cd|$, correct to two decimal
   places.

ANSWERS

5 (b) (i) 352 cm²   (ii) 115°
   (c) (i) 7·39 cm   (ii) 10·61 cm