Marking Scheme Notes
Question 1 (b) [Scale 5C (0, 2, 3, 5)]
2: • Recognises $|AD| = |DB| = |DC|$ (any two)
• Recognises one relevant right angle
• Indicates some understanding of circumcentre of a triangle
3: • Recognises $|AD| = |DB| = |DC|$ and relevant right angles but fails to conclude fully
• Clearly identifies two congruent triangles but does not make reference to the remaining triangle

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Question 2 (25 marks)

Question 2 (a)

Replace angle B by A in the formula from the table book:

$\cos(A+B) = \cos A\cos B - \sin A\sin B$

$\cos(A+A) = \cos A\cos A - \sin A\sin A$

$\cos 2A = \cos^2 A - \sin^2 A$

Formulae and Tables Book
Trigonometry:
Compound angle formulae [page 14]

$\cos(A+B) = \cos A\cos B - \sin A\sin B$

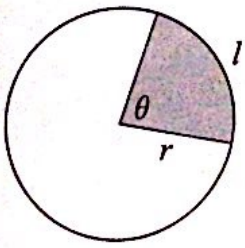
$\sin(A+B) = \sin A\cos B + \cos A\sin B$

$\tan(A+B) = \dfrac{\tan A + \tan B}{1 - \tan A\tan B}$

Marking Scheme Notes
Question 2 (a) [Scale 15C (0, 5, 10, 15)]
5: • Relevant compound angle formula
• Tested with one or more values for A
10: • Expansion correct but not tidied

Question 2 (b)

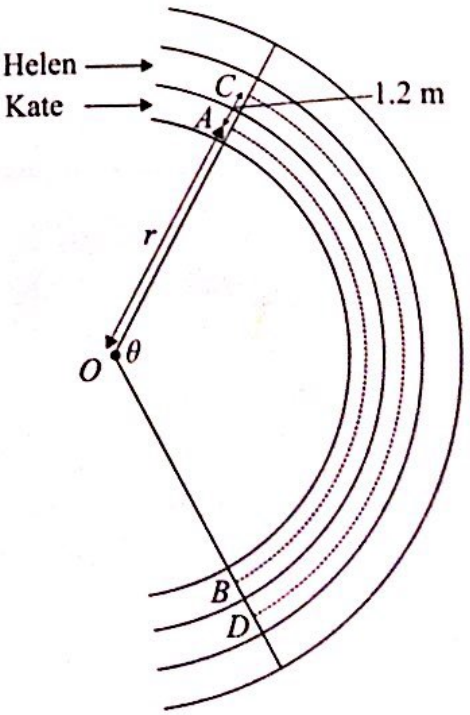
Formulae and Tables Book
Length and area:
Arc/sector [page 9]



$l = r\theta$

$A = \frac{1}{2}r^2\theta$

when θ is in radians.



Call r the distance $|OA|$.

$|AB| + 3 = |CD|$

$|AB| = r\theta$....(1)

$|CD| = (r + 1\cdot 2)\theta \Rightarrow |AB| + 3 = r\theta + 1\cdot 2\theta$....(2)

$(2) - (1): 3 = 1\cdot 2\theta \Rightarrow \theta = \dfrac{3}{1\cdot 2} = 2\cdot 5$ radians