

# Solomon Practice Paper

## Core Mathematics 2G

Time allowed: 90 minutes

Centre: [www.CasperYC.club](http://www.CasperYC.club)

Name:

Teacher:

Question	Points	Score
1	5	
2	6	
3	6	
4	7	
5	8	
6	8	
7	11	
8	12	
9	12	
Total:	75	

How I can achieve better:

- 
- 
- 



Last updated:

December 24, 2025













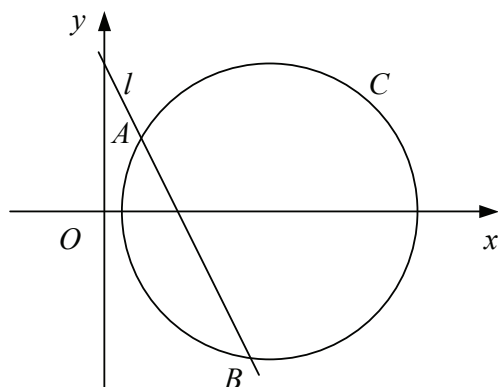








8. Figure shows the circle  $C$  and the straight line  $l$ .



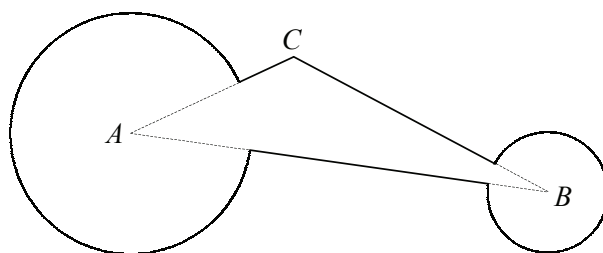
The centre of  $C$  lies on the  $x$ -axis and  $l$  intersects  $C$  at the points  $A(2, 4)$  and  $B(8, -8)$ .

- (a) Find the gradient of  $l$ . [2]
- (b) Find the coordinates of the mid-point of  $AB$ . [2]
- (c) Find the coordinates of the centre of  $C$ . [5]
- (d) Show that  $C$  has the equation  $x^2 + y^2 - 18x + 16 = 0$ . [3]

Total: 12



9. Figure shows a design painted on the wall at a karting track.



The sign consists of triangle  $ABC$  and two circular sectors of radius 2 metres and 1 metre with centres  $A$  and  $B$  respectively.

Given that  $AB = 7$  m,  $AC = 3$  m and  $\angle ACB = 2.2$  radians,

- (a) use the sine rule to find the size of  $\angle ABC$  in radians to 3 significant figures, [3]
- (b) show that  $\angle BAC = 0.588$  radians to 3 significant figures, [2]
- (c) find the area of triangle  $ABC$ , [2]
- (d) find the area of the wall covered by the design. [5]

Total: 12

