

Solomon Practice Paper

Core Mathematics 1D

Time allowed: 90 minutes

Centre: www.CasperYC.club

Name:

Teacher:

Question	Points	Score
1	3	
2	4	
3	4	
4	6	
5	7	
6	7	
7	10	
8	10	
9	11	
10	13	
Total:	75	

How I can achieve better:

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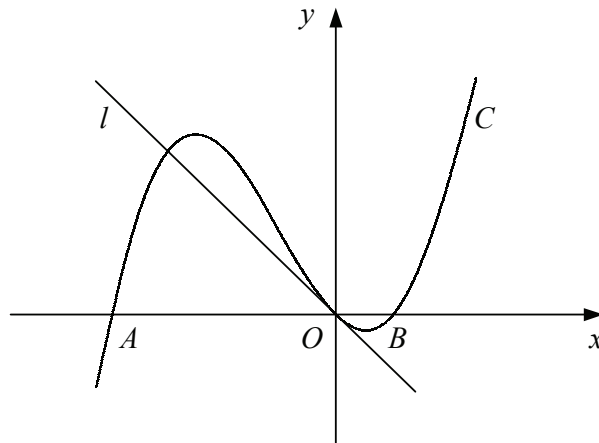


Last updated:

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9. Figure shows the curve C with the equation $y = x^3 + 3x^2 - 4x$ and the straight line l .



The curve C crosses the x -axis at the origin, O , and at the points A and B .

(a) Find the coordinates of A and B . [3]

The line l is the tangent to C at O .

(b) Find an equation for l . [4]

(c) Find the coordinates of the point where l intersects C again. [4]

Total: 11



10. The straight line l_1 has equation $2x + y - 14 = 0$ and crosses the x -axis at the point A .

(a) Find the coordinates of A .

[2]

The straight line l_2 is parallel to l_1 and passes through the point $B(-6, 6)$.

(b) Find an equation for l_2 in the form $y = mx + c$.

[3]

The line l_2 crosses the x -axis at the point C .

(c) Find the coordinates of C .

[1]

The point D lies on l_1 and is such that CD is perpendicular to l_1 .

(d) Show that D has coordinates $(5, 4)$.

[5]

(e) Find the area of triangle ACD .

[2]

Total: 13

