

# Solomon Practice Paper

## Pure Mathematics 3F

Time allowed: 90 minutes

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

Name:

Teacher:

Question	Points	Score
1	7	
2	8	
3	9	
4	10	
5	11	
6	13	
7	17	
Total:	75	

How I can achieve better:

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Last updated: December 24, 2025









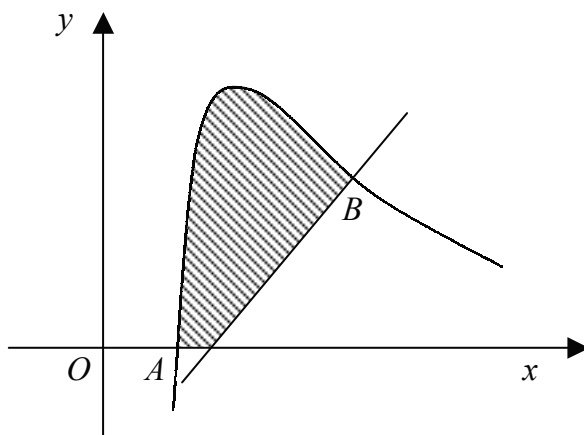






7. Figure shows part of the curve with parametric equations

$$x = \frac{3}{t}, \quad \text{and} \quad y = 4t - t^2, \quad t \neq 0.$$



- (a) Find the value of the parameter  $t$  at the point  $A$  where the curve meets the  $x$ -axis. [2]

The point  $B$  on the curve has parameter  $t = 1$ .

- (b) Find an equation of the normal to the curve at the point  $B$ . [6]  
 (c) Show that the area of the shaded region enclosed by the curve, the  $x$ -axis and the normal to the curve at  $B$  is  $12(2\ln(2) - 1)$ . [9]

Total: 17

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