

Solomon Practice Paper

Pure Mathematics 1J

Time allowed: 90 minutes

Centre: www.CasperYC.club

Name:

Teacher:

| Question | Points | Score |
|----------|--------|-------|
| 1 | 7 | |
| 2 | 7 | |
| 3 | 8 | |
| 4 | 8 | |
| 5 | 9 | |
| 6 | 9 | |
| 7 | 11 | |
| 8 | 16 | |
| Total: | 75 | |

How I can achieve better:

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-
-

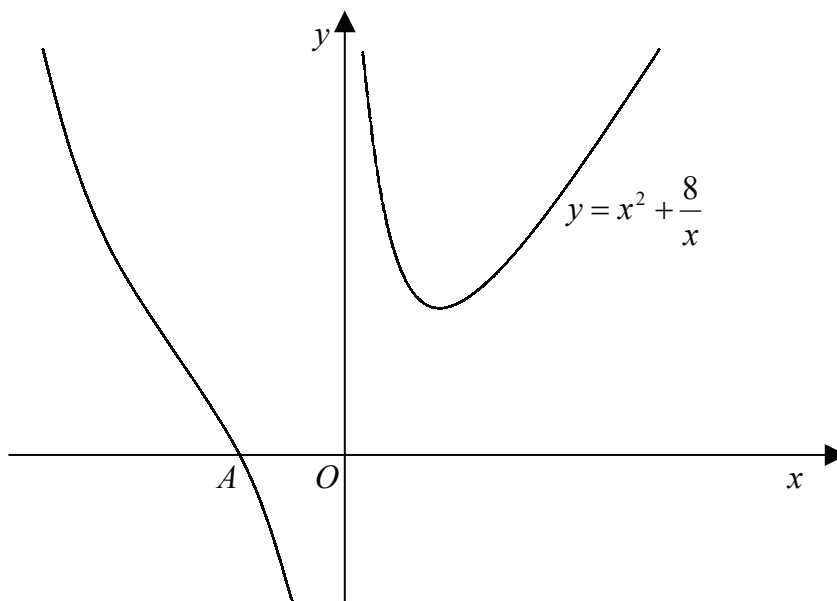


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8. Figure shows part of the curve

$$y = x^2 + \frac{8}{x}$$



which crosses the x -axis at the point A .

- (a) Find the coordinates of the point A . [3]

The line l is the normal to the curve at the point A .

- (b) Find an equation of the line l . [6]

- (c) Show that the line l will intersect the curve where [3]

$$6x^3 - x^2 - 2x + 48 = 0.$$

- (d) Hence prove that l does not cross the curve other than at A . [4]

Total: 16



