

(a) Show that a quartic equation with roots $2\alpha+1, 2\beta+1, 2\gamma+1, 2\delta+1$ is

[4]

(b) Find the value of S_7 . [2]

(c) Given that $S_3 = -22$, find the value of S_4 . [2]

7 The curve C has equation $y = \frac{x+2}{x^2+3x+1}$.

- (a) Find the equations of the asymptotes of C .

[2]

- (b) Show that C has no stationary points.

[3]

- (c) Sketch C , stating the coordinates of the intersections with the axes.

[3]

- (d) Sketch the curve with equation $y = \left| \frac{x+2}{x^2+3x+1} \right|$.

[2]

Additional page

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[1]

[1]

[4]

7

[2]

[6]

8