Specialist Maths Unit 3/4 Practice Questions

Graphing Techniques Advance Practice

Question 1

Sketch the graph of $y = \sqrt{x-3} + x^2 - \frac{2}{x}$ 3 mark

Question 2

For $x_1 = 2\sin t\,, y_1 = 2\cos t\,, t \in (0, \pi)$

$x_2 = \tan(r)\,, y_2 = \sec(r)\,, r \in \left(\frac{-\pi}{2}, 0\right)$

Sketch the two graphs on the same axes, pay attention to the domain implied. 4 mark

Question 3

Abby is thinking of cutting paper for decoration. She designed a model combining function

$f(x) = \frac{1}{x^2-2}$, relation $x^2 + y^2 = 4$ and $\frac{(y-2)^2}{9} - \frac{(x-1)^2}{4} = 1$

She wants to make sure the graphs shown are restricted in a 6×6 square for paper-cutting purpose, sketch the graphs and plot the end points of each of the graphs 5 mark