

STEP II, 2012 Q5

- 5 (i) Sketch the curve $y = f(x)$, where

$$f(x) = \frac{1}{(x-a)^2 - 1} \quad (x \neq a \pm 1),$$

and a is a constant.

- (ii) The function $g(x)$ is defined by

$$g(x) = \frac{1}{((x-a)^2 - 1)((x-b)^2 - 1)} \quad (x \neq a \pm 1, x \neq b \pm 1),$$

where a and b are constants, and $b > a$. Sketch the curves $y = g(x)$ in the two cases $b > a + 2$ and $b = a + 2$, finding the values of x at the stationary points.



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