

Daily Question – Pure Mathematics - Day 1

Topic: Functions – Transformations of graphs

Day 1 Question 1

Q1.

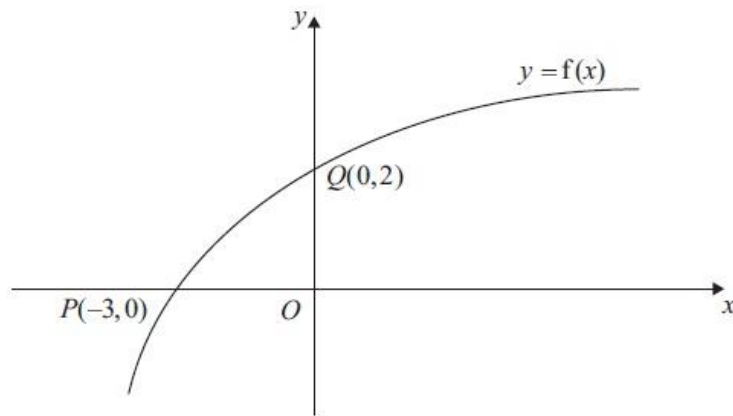


Figure 1

Figure 1 shows part of the curve with equation $y = f(x)$, $x \in \mathbb{R}$.

The curve passes through the points $Q(0, 2)$ and $P(-3, 0)$ as shown.

(a) Find the value of $ff(-3)$. (2)

On separate diagrams, sketch the curve with equation

(b) $y = f^{-1}(x)$, (2)

(c) $y = f(|x|) - 2$, (2)

(d) $y = 2f\left(\frac{1}{2}x\right)$ (3)

Indicate clearly on each sketch the coordinates of the points at which the curve crosses or meets the axes.

(Total 9 marks)