

Edexcel (U.K.) Pre 2017

Questions By Topic

C1 Chap05 Coordinates

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3. The line L has equation $y = 5 - 2x$.

(a) Show that the point $P(3, -1)$ lies on L .

(1)

(b) Find an equation of the line perpendicular to L , which passes through P . Give your answer in the form $ax + by + c = 0$, where a , b and c are integers.

(4)

Q3

(Total 5 marks)

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10.

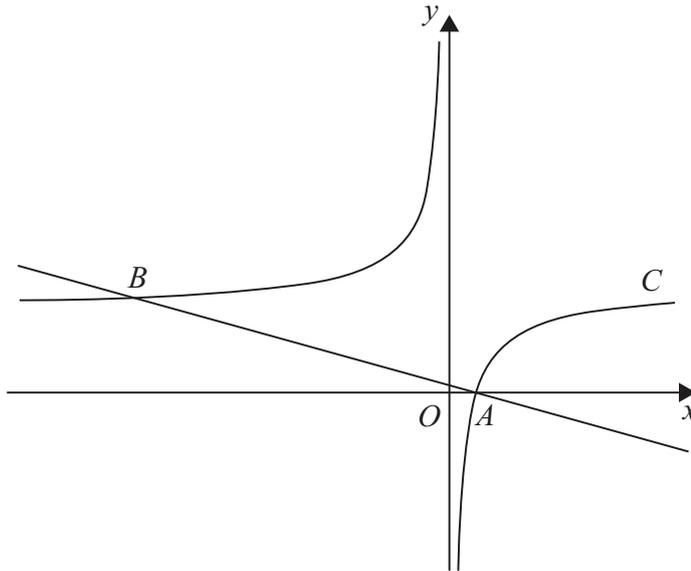


Figure 2

Figure 2 shows a sketch of the curve C with equation

$$y = 2 - \frac{1}{x}, \quad x \neq 0$$

The curve crosses the x -axis at the point A .

(a) Find the coordinates of A . (1)

(b) Show that the equation of the normal to C at A can be written as

$$2x + 8y - 1 = 0 \quad (6)$$

The normal to C at A meets C again at the point B , as shown in Figure 2.

(c) Find the coordinates of B . (4)

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9.

Figure 2

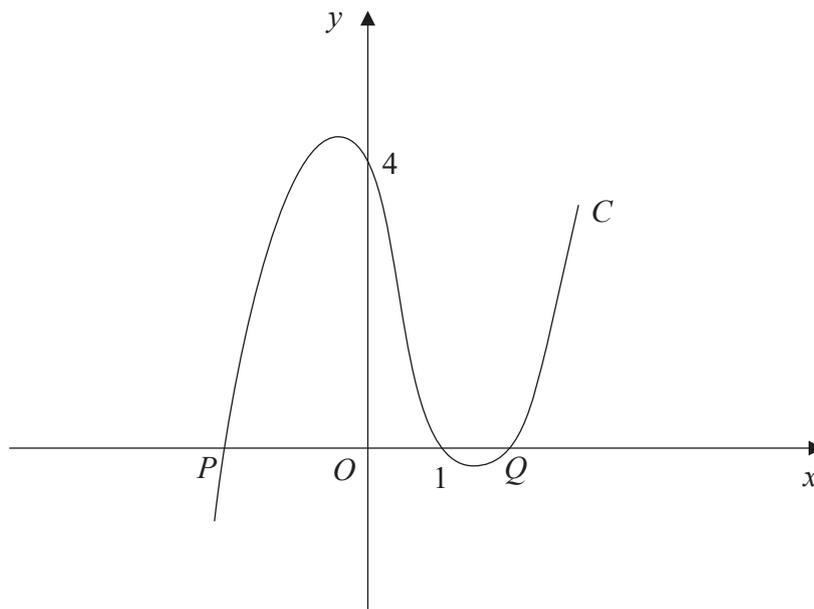


Figure 2 shows part of the curve C with equation

$$y = (x - 1)(x^2 - 4).$$

The curve cuts the x -axis at the points P , $(1, 0)$ and Q , as shown in Figure 2.

(a) Write down the x -coordinate of P , and the x -coordinate of Q . (2)

(b) Show that $\frac{dy}{dx} = 3x^2 - 2x - 4$. (3)

(c) Show that $y = x + 7$ is an equation of the tangent to C at the point $(-1, 6)$. (2)

The tangent to C at the point R is parallel to the tangent at the point $(-1, 6)$.

(d) Find the exact coordinates of R . (5)
