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(1)

(2)

(Total 3 marks)

(Total 8 marks)

- (4)

6

1

$$x^2 + 2y = 12.$$

(6)

(Total 6 marks)

(Total 6 marks)

6.

Figure 1

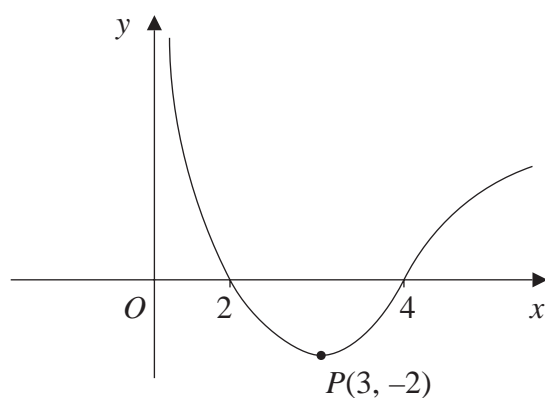


Figure 1 shows a sketch of the curve with equation $y = f(x)$. The curve crosses the x -axis at the points $(2, 0)$ and $(4, 0)$. The minimum point on the curve is $P(3, -2)$.

In separate diagrams sketch the curve with equation

(a) $y = -f(x)$, (3)

(b) $y = f(2x)$. (3)

On each diagram, give the coordinates of the points at which the curve crosses the x -axis, and the coordinates of the image of P under the given transformation.

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Question 6 continued

Q6

(Total 6 marks)

(b) Find an equation of the tangent to C at P . (3)

(c) Find the value of k . (2)

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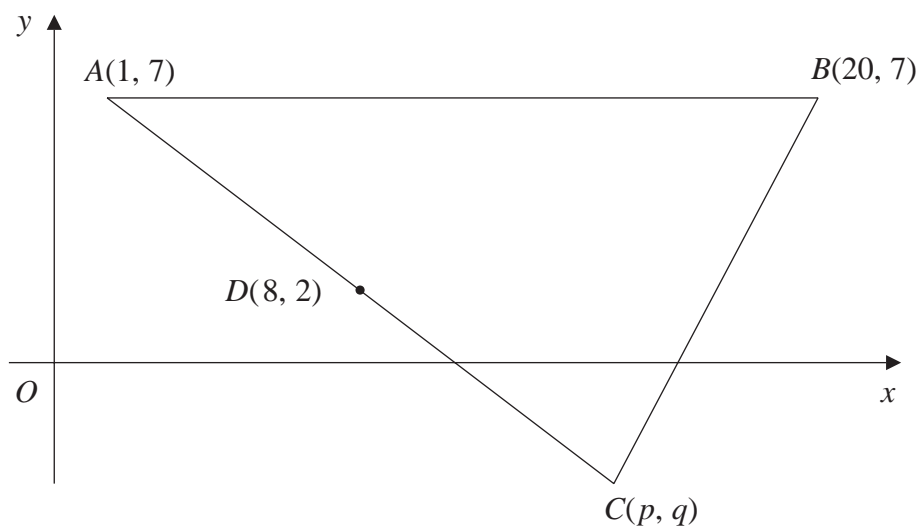
Question 7 continued

[illegible]

Q7

(Total 10 marks)

Figure 2



The points $A(1, 7)$, $B(20, 7)$ and $C(p, q)$ form the vertices of a triangle ABC , as shown in Figure 2. The point $D(8, 2)$ is the mid-point of AC .

- (a) Find the value of p and the value of q . (2)

The line l , which passes through D and is perpendicular to AC , intersects AB at E .

- (b) Find an equation for l , in the form $ax + by + c = 0$, where a , b and c are integers. (5)

- (c) Find the exact x -coordinate of E . (2)

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Question 8 continued

[illegible]

Q8

(Total 9 marks)

(Total 11 marks)

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Question 10 continued

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Q10

(Total 12 marks)

TOTAL FOR PAPER: 75 MARKS

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