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1. Find

$$\int \left(\frac{8x^3}{5} - \frac{2}{3x^4} - 1 \right) \mathrm{d}x$$

giving each term in simplest form.

(4)

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Question 1 continued

Q1

(Total 4 marks)

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2. $f(x) = 11 - 4x - 2x^2$

(a) Express $f(x)$ in the form

$$a + b(x + c)^2$$

where a, b and c are integers to be found.

(3)

(b) Sketch the graph of the curve C with equation $y = f(x)$, showing clearly the coordinates of the point where the curve crosses the y-axis.

(2)

(c) Write down the equation of the line of symmetry of C.

(1)

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