2. The points P, Q and R have coordinates $(-3, 7)$, $(9, 11)$ and $(12, 2)$ respectively.

(a) Prove that angle $PQR = 90°$

(3)

Given that the point S is such that $PQRS$ forms a rectangle,

(b) find the coordinates of S.

(2)

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Question 2 continued

(Total for Question 2 is 5 marks)

3. Find

$$\int \frac{4x^5 + 3}{2x^2} \, \mathrm{d}x$$

giving your answer in simplest form.

(5)

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