# eClassroom

### **Question 1**

Find:

$$\int (6x^2+4x-5)\,dx,$$

4 marks)	





A curve with equation y=f(x) passes through the point (4,9).

Given that:

$$\frac{dy}{dx} = 6x^2 - 4x + 3,$$

- (a) Find f(x), giving each term in its simplest form.
- (5 marks)

Point P lies on the curve. The normal to the curve at P is parallel to the line 2y+x=0.

- **(b)** Find the x-coordinate of P.
- (5 marks)

Total for question = 10 marks

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Find:

$$\int \left(rac{1}{2}x^3 - rac{3}{4}x^2 + rac{5}{6}x - rac{1}{3}
ight)\,dx,$$

4 marks)	





Find:

$$\int rac{4x^3-6x^2+10x^4-2}{2x^2}\,dx,$$

(4 marks)	





Find:

$$\int rac{6x^4 - 8x^3 + 12x^2 - 4}{\sqrt{x^3}} \, dx,$$

4 marks)	



