

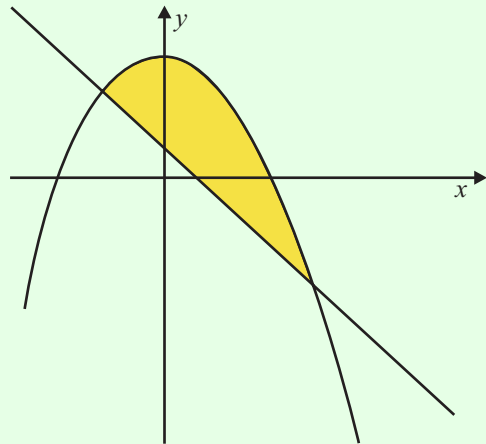
INTEGRATION (Q 8, PAPER 1)

2008

8 (a) Find  $\int (2x + \cos 3x) dx$ .

(b) Evaluate (i)  $\int_0^1 3x^2 e^{x^3} dx$  (ii)  $\int_2^4 \frac{2x^3}{x^2-1} dx$

(c) The diagram shows the curve  $y = 4 - x^2$  and the line  $2x + y - 1 = 0$ . Calculate the area of the shaded region enclosed by the curve and the line.



**ANSWERS**

8 (a)  $x^2 + \frac{1}{3} \sin 3x + x$

(b) (i)  $e - 1$  (ii)  $12 + \ln 5$

(c)  $\frac{32}{3}$