

Departamento de Matemáticas $2^{\underline{0}}$ Bachillerato



Integral definida

 $1.\ \mathrm{p43e03}$ - Utiliza la regla de Barrow para calcular :

(a)
$$\int_0^3 (3x^2 - 6) dx$$

Sol:
$$9 (F(x) = x^3 - 6x)$$

(b)
$$\int_1^2 \frac{1}{x} \, dx$$

Sol:
$$\log(2)$$
 $(F(x) = \log(x))$

(c)
$$\int_0^1 \frac{5}{7x^2+7} dx$$

Sol:
$$\frac{5\pi}{28}$$
 $(F(x) = \frac{5 \tan(x)}{7})$

(d)
$$\int_2^3 \frac{1}{x \log(x)} dx$$

Sol:
$$\log \left(\frac{\log(3)}{\log(2)} \right)$$
 $(F(x)) = \log(\log(x))$

(e)
$$\int_{\frac{\pi}{2}}^{2\pi} \sin^5(x) \cos(x) dx$$

Sol:
$$-\frac{1}{6} (F(x) = \frac{\sin^6(x)}{6})$$

(f)
$$\int_2^5 e^x x \, dx$$

Sol:
$$-e^2 + 4e^5$$
 $(F(x) = (x-1)e^x)$