

Integral definida

Ejercicios propuestos

$$1) \int_1^2 (x^2 + x - 3) dx = \frac{5}{6}$$

$$2) \int_2^3 \sqrt{x-2} dx = \frac{2}{3}$$

$$3) \int_0^1 x e^{x^2-1} dx = \frac{e-1}{2e}$$

$$4) \int_{-\pi/4}^{\pi/4} \operatorname{tg} x dx = 0$$

$$5) \int_0^{\sqrt{2}/2} \frac{dx}{\sqrt{1-x^2}} = \frac{\pi}{4}$$

$$6) \int_0^1 \frac{x^3}{1+x^8} dx = \frac{\pi}{16}$$

$$7) \int_0^1 \frac{x}{x^2+3x+2} dx = \operatorname{Log}\left(\frac{9}{8}\right)$$

$$8) \int_1^2 \operatorname{Log}(x^2+1) dx = \operatorname{Log}\left(\frac{25}{2}\right) - 2 + 2\operatorname{arctg}2 - \frac{\pi}{2}$$

$$9) \int_0^8 (\sqrt{2x} + \sqrt[3]{x}) dx = \frac{100}{3}$$

Introducción al cálculo integral

$$10) \int_3^4 \frac{dx}{x^2 - 3x + 2} = \text{Log}\left(\frac{4}{3}\right)$$

$$11) \int_1^e \frac{\text{sen}(\text{Log}x)}{x} dx = 1 - \cos 1$$

$$12) \int_{\pi/6}^{\pi/4} \frac{dx}{\cos^2 x} = 1 - \frac{1}{\sqrt{3}}$$

$$13) \int_0^2 x^2 \sqrt{4 - x^2} dx = \pi$$

$$14) \int_0^{\pi/2} \frac{dx}{4 - \text{sen}^2 x} = \frac{1}{2\sqrt{3}} \text{arctg}\left(\frac{\sqrt{3}}{2}\right)$$

$$15) \int_0^4 \frac{dx}{1 + \sqrt{x}} = 4 - 2\text{Log}(3)$$

$$16) \int_0^{\text{Log}(5)} \frac{e^x \sqrt{e^x - 1}}{e^x + 3} dx = 4 - \pi$$

$$17) \int_0^{\text{Log}(2)} \sqrt{e^x - 1} dx = 2 - \frac{\pi}{2}$$

$$18) \int_0^{\pi} \frac{dx}{3 + 2\cos x} = \frac{\pi}{\sqrt{5}}$$

$$19) \int_{\sqrt{2}/2}^1 \frac{\sqrt{1-x^2}}{x^2} dx = 1 - \frac{\pi}{4}$$

Integral definida

$$20) \int_1^3 \frac{dx}{x\sqrt{x^2+5x+1}} = \text{Log}\left(\frac{7+2\sqrt{7}}{9}\right)$$

$$21) \int_0^5 \frac{dx}{2x+\sqrt{3x+1}} = \frac{1}{5} \text{Log}(112)$$

$$22) \int_1^2 \frac{dx}{(x+1)\sqrt{x^2+x+1}} = \text{Log}\left(\frac{\sqrt{3}(2\sqrt{7}+1)}{9}\right)$$

$$23) \int_{-1}^1 \frac{dx}{(1+x^2)^2} = \frac{1}{2} + \frac{\pi}{4}$$

$$24) \int_0^{2\pi} \frac{dx}{5-3\cos x} = \frac{\pi}{2}$$

$$25) \int_0^{2\pi} \frac{dx}{2+\text{sen} x} = \frac{2\pi}{\sqrt{3}}$$

$$26) \int_0^{\pi} \cos 3x \text{ sen} 6x \, dx = \frac{4}{9}$$