

### Ejercicios propuestos

$$1) \int x^2 (3x^3 + 14)^3 dx = \frac{1}{36} (3x^3 + 14)^4 + C$$

$$2) \int \sqrt[5]{5x+6} dx = \frac{1}{6} (5x+6)^{6/5} + C$$

$$3) \int \frac{17x}{\sqrt[3]{6x^2+8}} dx = \frac{51}{24} (6x^2+8)^{2/3} + C$$

$$4) \int \frac{\operatorname{arctg} x}{1+x^2} dx = \frac{1}{2} (\operatorname{arctg} x)^2 + C$$

$$5) \int \frac{dx}{(3x+1)^4} = -\frac{1}{9} (3x+1)^{-3} + C$$

$$6) \int \cos x \operatorname{sen}^3 x dx = \frac{1}{4} \operatorname{sen}^4 x + C$$

$$7) \int \frac{x+3}{(x^2+6x)^{1/3}} dx = \frac{3}{4} (x^2+6x)^{2/3} + C$$

$$8) \int x^2 7^{x^3+5} dx = \frac{1}{3 \operatorname{Log} 7} 7^{x^3+5} + C$$

$$9) \int \cos 3x e^{\operatorname{sen} 3x} dx = \frac{1}{3} e^{\operatorname{sen} 3x} + C$$

$$10) \int \frac{x}{3x^2+2} 5^{\operatorname{Log}(3x^2+2)} dx = \frac{1}{6 \operatorname{Log} 5} 5^{\operatorname{Log}(3x^2+2)} + C$$

*Integrales: Introducción y propiedades*

$$11) \int \frac{x}{x^2+1} dx = \frac{1}{2} \text{Log}(x^2+1) + C$$

$$12) \int \frac{dx}{\text{tg} x} = \text{Log}(\text{sen} x) + C$$

$$13) \int \frac{7^{2x}}{7^{2x}+5} dx = \frac{1}{2 \text{Log} 7} \text{Log}(7^{2x}+5) + C$$

$$14) \int \frac{x}{\sqrt{1-6x^4}} dx = \frac{1}{2\sqrt{6}} \text{arcsen}(\sqrt{6} x^2) + C$$

$$15) \int \frac{x^3}{1+x^8} dx = \frac{1}{4} \text{arctg}(x^4) + C$$

$$16) \int \frac{\cos \sqrt{x}}{\sqrt{x}} dx = 2 \text{sen} \sqrt{x} + C$$

$$17) \int \frac{\text{sen}(\text{Log} x)}{x} dx = -\cos(\text{Log} x) + C$$

$$18) \int 3x \sqrt{1-2x^2} dx = -\frac{1}{2} (1-2x^2)^{3/2} + C$$

$$19) \int \frac{x^2}{\sqrt[4]{x^3+2}} dx = \frac{4}{9} (x^3+2)^{3/4} + C$$

$$20) \int (4-x^{2/3})^3 dx = 64x + \frac{36}{7} x^{7/3} - \frac{144}{5} x^{5/3} - \frac{1}{3} x^3 + C$$

$$21) \int \frac{(2-\sqrt{x})^2}{\sqrt{x}} dx = -\frac{2}{3} (2-\sqrt{x})^3 + C$$

$$22) \int \frac{3x^4}{\sqrt{5x^5+7}} dx = \frac{6}{25} \sqrt{5x^5+7} + C$$

$$23) \int \left( \frac{\sqrt{x}}{x} - 3x \sqrt[3]{x+7} \right) dx = 2\sqrt{x} - \frac{9}{7} x^{7/3} + 7x + C$$

$$24) \int \frac{x^3 + 5x^2 - 4}{x^2} dx = \frac{x^2}{2} + 5x + \frac{4}{x} + C$$

$$25) \int \operatorname{sen} 3x \sqrt[3]{\cos 3x} dx = -\frac{1}{4} (\cos 3x)^{4/3} + C$$

$$26) \int e^{1/x} \frac{1}{x^2} dx = -e^{1/x} + C$$

$$27) \int \frac{\operatorname{sen} 3x}{3 + \cos 3x} dx = -\frac{1}{3} \operatorname{Log}(3 + \cos 3x) + C$$

$$28) \int \frac{x}{\sqrt{1-x^4}} dx = \frac{1}{2} \operatorname{arcsen}(x^2) + C$$

$$29) \int \frac{x}{x^4+3} dx = \frac{\sqrt{3}}{6} \operatorname{arctg} \left( \frac{x^2}{\sqrt{3}} \right) + C$$

$$30) \int x \operatorname{cotg}(x^2+1) dx = \frac{1}{2} \operatorname{Log}[\operatorname{sen}(x^2+1)] + C$$