

Construccion Derivadas. Primitivas inmediatas

GGT

$$1) \int 10x^4 dx = 10 \int x^4 dx = \frac{10 \cdot x^5}{5} + k = 2x^5 + k$$

$$2) \int 2e^x + x^2 dx = 2e^x + \frac{x^3}{3} + k$$

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

$$4) \int \frac{-6}{x} dx = -6 \int \frac{1}{x} dx = -6 \ln(|x|) + k$$

$$5) \int 4 dx = 4x + k$$

$$6) \int (7 \sin(x) + 5 \cos(x)) dx = 7 \int \sin(x) dx + 5 \int \cos(x) dx \\ = 7(-\cos(x)) + 5 \sin(x) + k \\ = -7 \cos(x) + 5 \sin(x) + k$$

$$7) \int 4x^7 - 2x^5 + 3x^2 + 6x - 8 dx \\ = \frac{4x^8}{8} - \frac{2x^6}{6} + \frac{3x^3}{3} + \frac{6x^2}{2} - 8x + k \\ = \frac{x^8}{2} - \frac{x^6}{3} + x^3 + 3x^2 - 8x + k$$

$$8) \int \frac{2}{x} - 2^x dx = 2 \int \frac{1}{x} dx - \int 2^x dx = 2 \ln(|x|) \\ - \frac{2^x}{\ln(2)} + k$$

$$9) \int (2x-5)^2 dx = \int (4x^2 - 20x + 25) dx \\ = 4 \frac{x^3}{3} - \frac{20x^2}{2} + 25x + k \\ = \frac{4x^3}{3} - 10x^2 + 25x + k$$

$$10) \int \frac{x^2 + 2x - 4}{x} dx = \int \frac{x^2}{x} dx + \int \frac{2x}{x} dx - \int \frac{4}{x} dx \\ = \frac{x^2}{2} + 2x - 4 \ln(|x|) + k$$

$$11) \int \frac{e^{2x} + 3e^x}{e^x} dx = \int \frac{e^{2x}}{e^x} dx + 3 \int \frac{e^x}{e^x} dx \\ = \int e^x dx + 3 \int 1 dx \\ = e^x + 3x + k$$

$$12) \int x \cdot (x^3 - 5x^2 + 6x) dx \\ = \int (x^4 - 5x^3 + 6x^2) dx \\ = \frac{x^5}{5} - \frac{5x^4}{4} + \frac{6x^3}{3} + k \\ = \frac{x^5}{5} - \frac{5x^4}{4} + 2x^3 + k$$