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PASIÓN POR EDUCAR

Materia: matemáticas aplicadas

Grado: 6° cuatrimestre

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$$2_0 - \int \sqrt{x} dx = \int x^{1/2} dx + C \quad \int \frac{x^{1/2+1}}{\frac{1}{2}+1} + C$$

$$\frac{x^{3/2}}{\frac{3}{2}} + C = \frac{2x^{3/2}}{3} + C = \frac{2}{3} \sqrt[3]{x^3} + C$$

$$2_0 - \int \frac{2}{\sqrt{x^3}} dx = \int \frac{2}{x^{3/2}} dx + C \quad \int \frac{2x^{-3/2+1}}{-3/2+1} + C$$

$$\frac{2x^{-1/2}}{-1/2} + C = -4x^{-1/2} = \frac{-4}{\sqrt{x}} + C$$

$$3_0 - \int \frac{5}{\sqrt{x}} dx = \int \frac{5}{x^{1/2}} dx + C \quad \int \frac{5x^{-1/2+1}}{-1/2+1} + C$$

$$\frac{5x^{1/2}}{1/2} + C = 10x^{1/2} + C$$

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$$4. \int (2x^2 + 4x + 2) dx$$

$$\int 2x^2 dx + \int 4x dx + \int 2 dx$$

$$\frac{2x^3}{3} + \frac{4x^2}{2} + 2x + C$$

$$\frac{2x^3}{3} + 2x^2 + 2x + C$$

$$5. \int 8\sqrt{x} dx = \int 8x^{1/2} dx + C = \frac{8x^{1/2+1}}{1/2+1} + C$$

$$\frac{8x^{3/2}}{3/2} + C = \frac{16x^{3/2}}{3} + C = \frac{16}{3}\sqrt{x^3} + C$$

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

$$\frac{2x^{3/5}}{3/5} + C = \frac{10x^{3/5}}{3} + C = \frac{10}{3}\sqrt[5]{x^3}$$

$$7. \int 4x^2 dx = \frac{4x^{2+1}}{2+1} + C = \frac{4^3}{3} + C$$

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$$8. - \int \frac{6}{\sqrt{x}} dx = \int 6x^{1/2} dx + c = \int \frac{6x^{1/2+1}}{1/2+1} + c$$

$$\frac{6x^{3/2}}{3/2} + c = \frac{12x^{3/2}}{3} + c = \underline{\underline{\frac{12}{3} \sqrt{x^3}}}$$

$$9. - 4(2x^3 + 2x) dx$$

$$\int 8x^3 dx + \int 8x dx$$

$$\frac{8x^4}{4} + \frac{8x^2}{2}$$

$$\underline{\underline{2x^4 + 4x^2 + c}}$$

$$10. - \int \sqrt{x^5} dx = \int x^{5/2} dx + c = \int \frac{x^{5/2+1}}{5/2+1} + c$$

$$\frac{x^{7/2}}{7/2} + c = \frac{2x^{7/2}}{7} + c = \underline{\underline{\frac{2\sqrt{x^7}}{7}}}$$