

**INTEGRACIÓN POR: COMPLETACIÓN DE TRINOMIOS Y SUSTITUCIÓN TRIGONOMÉTRICA**

$$1. \int \frac{dx}{x^2 \sqrt{16 + 9x^2}} \quad \text{Rpta.} \quad -\frac{\sqrt{16 + 9x^2}}{16x} + c$$

$$2. \int \frac{dx}{(x^2 - 2x + 5)^{\frac{3}{2}}} \quad \text{Rpta.} \quad \frac{x - 1}{4\sqrt{x^2 - 2x + 5}} + c$$

$$3. \int \frac{e^{-x}}{(9e^{-2x} + 1)^{\frac{3}{2}}} dx \quad \text{Rpta.} \quad -\frac{e^{-x}}{\sqrt{9e^{-2x} + 1}} + c$$

$$4. \int \frac{(2x - 3)}{(x^2 + 2x - 3)^{\frac{3}{2}}} dx \quad \text{Rpta.} \quad \frac{5}{4} \left[ \frac{x + 1}{\sqrt{x^2 + 2x - 3}} \right] - \frac{2}{\sqrt{x^2 + 2x - 3}} + c$$

$$5. \int \frac{\sqrt{25 - x^2}}{x} dx \quad \text{Rpta.} \quad 5 \ln \left| \frac{5 - \sqrt{25 - x^2}}{x} \right| + \sqrt{25 - x^2} + c$$

$$6. \int \frac{1 + \sqrt{x^2 + 1}}{(x^2 + 1)^{\frac{3}{2}}} dx \quad \text{Rpta.} \quad \frac{x}{\sqrt{x^2 + 1}} + \arctan x + c$$

$$7. \int \frac{dx}{(x + 1)^3 \sqrt{x^2 + 2x}} \quad \text{Rpta.} \quad \frac{1}{2} \arccos \left( \frac{1}{x + 1} \right) + \frac{1}{2} \frac{\sqrt{x^2 + 2x}}{(x + 1)^2} + c$$

$$8. \int \frac{dx}{(1 - 2x)^4 \sqrt{4x^2 - 4x - 4}} \quad \text{Rpta.} \quad -\frac{1}{50} \frac{\sqrt{(1 - 2x)^2 - 5}}{1 - 2x} + \frac{1}{150} \left[ \frac{\sqrt{(1 - 2x)^2 - 5}}{1 - 2x} \right]^3 + c$$