> restart

> $Ecua := (3\cdot x^2\cdot y + 8\cdot x\cdot y^2 - 6\cdot y^3) + (x^3 + 8\cdot x^2\cdot y - 18\cdot x\cdot y^2)\cdot y' = 0$

$$Ecua := 3x^2 y(x) + 8x\,y(x)^2 - 6\,y(x)^3 + \left(x^3 + 8x^2 y(x) - 18x\,y(x)^2\right)\left(\frac{d}{dx}\,y(x)\right) = 0 \quad (1)$$

> $M := 3x^2 y + 8x y^2 - 6y^3$

$$M := 3x^2 y + 8x y^2 - 6y^3 \quad (2)$$

> $N := x^3 + 8x^2 y - 18x y^2$

$$N := x^3 + 8x^2 y - 18x y^2 \quad (3)$$

> $IntMx := int(M, x)$

$$IntMx := x^3 y + 4x^2 y^2 - 6x y^3 \quad (4)$$

> $SolGral := IntMx + int((N - diff(IntMx, y)), y) = \_C1$

$$SolGral := x^3 y + 4x^2 y^2 - 6x y^3 = \_C1 \quad (5)$$

> $IntNy := int(N, y)$

$$IntNy := x^3 y + 4x^2 y^2 - 6x y^3 \quad (6)$$

> $SolGralDos := IntNy + int((M - diff(IntNy, x)), x) = \_C1$

$$SolGralDos := x^3 y + 4x^2 y^2 - 6x y^3 = \_C1 \quad (7)$$

> $SolGralFinal := x^3 y(x) + 4x^2 y(x)^2 - 6x\,y(x)^3 = \_C1$

$$SolGralFinal := x^3 y(x) + 4x^2 y(x)^2 - 6x\,y(x)^3 = \_C1 \quad (8)$$

> $DerSolGral := isolate(diff(SolGralFinal, x), diff(y(x), x))$

$$DerSolGral := \frac{d}{dx}\,y(x) = \frac{-3x^2 y(x) - 8x\,y(x)^2 + 6\,y(x)^3}{x^3 + 8x^2 y(x) - 18x\,y(x)^2} \quad (9)$$

> $DerEcua := isolate(Ecua, diff(y(x), x))$

$$DerEcua := \frac{d}{dx}\,y(x) = \frac{-3x^2 y(x) - 8x\,y(x)^2 + 6\,y(x)^3}{x^3 + 8x^2 y(x) - 18x\,y(x)^2} \quad (10)$$

> $Comprobar := rhs(DerSolGral) - rhs(DerEcua) = 0$

$$Comprobar := 0 = 0 \quad (11)$$

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