

```

> restart
> Ecua := (2·y(x) + 3·x·y(x)2 + 4·x2·y(x)3) + (x + 2·x2·y(x) + 3·x3·y(x)2)·diff(y(x), x) = 0
    Ecua := 2 y(x) + 3 x y(x)2 + 4 x2 y(x)3 + (x + 2 x2 y(x) + 3 x3 y(x)2) (d/dx y(x)) = 0 (1)
=
> with(DEtools) :
> FactInt := intfactor(Ecua)
    FactInt := x (2)
=
> M := (2·y + 3·x·y2 + 4·x2·y3)
    M := 4 x2 y3 + 3 x y2 + 2 y (3)
=
> N := x + 2·x2·y + 3·x3·y2
    N := 3 x3 y2 + 2 x2 y + x (4)
=
> Comprobar := diff(M, y) ≠ diff(N, x)
    Comprobar := 12 x2 y2 + 6 x y + 2 ≠ 9 x2 y2 + 4 x y + 1 (5)
=
> MM := expand(M·FactInt)
    MM := 4 x3 y3 + 3 x2 y2 + 2 x y (6)
=
> NN := expand(N·FactInt)
    NN := 3 x4 y2 + 2 x3 y + x2 (7)
=
> ComprobarDos := diff(MM, y) = diff(NN, x)
    ComprobarDos := 12 x3 y2 + 6 x2 y + 2 x = 12 x3 y2 + 6 x2 y + 2 x (8)
=
> IntMMx := int(MM, x)
    IntMMx := x4 y3 + x3 y2 + x2 y (9)
=
> SolGral := IntMMx + int((NN - diff(IntMMx, y)), y) = _C1
    SolGral := x4 y3 + x3 y2 + x2 y = _C1 (10)
=
> restart
> Ecuacion := (2·x·y(x)2 - 3·y(x)3) + (7 - 3·x·y(x)2)diff(y(x), x) = 0
    Ecuacion := 2 x y(x)2 - 3 y(x)3 + (7 - 3 x y(x)2) (d/dx y(x)) = 0 (11)
=
> with(DEtools) :
> intfactor(Ecuacion)
    1
    y(x)2 (12)
=
> FI := 1/y2
    FI := 1/y2 (13)
=
> M := 2·x·y2 - 3·y3
    M := 2 x y2 - 3 y3 (14)
=
> N := 7 - 3 x y2
    N := -3 x y2 + 7 (15)
=
> MM := expand(FI·M)
    (16)

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	$MM := 2 x - 3 y$	(16)
$\text{> } NN := \text{expand}(FI \cdot N)$	$NN := -3 x + \frac{7}{y^2}$	(17)
$\text{> } \text{Comprobar} := \text{diff}(MM, y) - \text{diff}(NN, x) = 0$	$\text{Comprobar} := 0 = 0$	(18)
$\text{> } \text{IntMMx} := \text{int}(MM, x)$	$\text{IntMMx} := x^2 - 3 x y$	(19)
$\text{> } \text{SolGral} := \text{IntMMx} + \text{int}((NN - \text{diff}(\text{IntMMx}, y)), y) = _C1$	$\text{SolGral} := x^2 - 3 x y - \frac{7}{y} = _C1$	(20)
>		