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> restart
> Ecua := (x + y^2) - 2·x·y·y'=0
      Ecua := x + y(x)^2 - 2 x y(x) ( d/dx y(x) ) = 0 (1)
=
> with(DEtools) :
> odeadvisor(Ecua)
      [ [_homogeneous, class G], _rational, _Bernoulli] (2)
=
> FI := intfactor(Ecua)
      FI := 1/x^2 (3)
=
> EcuaDos := expand(FI·Ecua)
      EcuaDos := 1/x + y(x)^2/x^2 - 2 y(x) ( d/dx y(x) )/x = 0 (4)
=
> odeadvisor(EcuaDos)
      [ [_homogeneous, class G], _exact, _rational, _Bernoulli] (5)
=
> MM := 1/x + y^2/x^2
      MM := 1/x + y^2/x^2 (6)
=
> NN := - 2 y/x
      NN := - 2 y/x (7)
=
> IMMx := int(MM, x)
      IMMx := ln(x) - y^2/x (8)
=
> SolGral := IMMx + int( (NN - diff(IMMx, y)), y) = _CI
      SolGral := ln(x) - y^2/x = _CI (9)
=
> restart
> Ecuacion := (2·x·y^2 - 3·y^3) + (7 - 3·x·y^2)·y'=0
      Ecuacion := 2 x y(x)^2 - 3 y(x)^3 + (7 - 3 x y(x)^2) ( d/dx y(x) ) = 0 (10)
=
> with(DEtools) :
> odeadvisor(Ecuacion)
      [_rational] (11)
=
> FI := intfactor(Ecuacion)
      FI := 1/y(x)^2 (12)
=
> FacInt := 1/y^2

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$$FacInt := \frac{1}{y^2} \quad (13)$$

> EcuacionDos := expand(FI·Ecuacion)

$$EcuacionDos := 2x - 3y(x) + \frac{7 \left( \frac{d}{dx} y(x) \right)}{y(x)^2} - 3 \left( \frac{d}{dx} y(x) \right) x = 0 \quad (14)$$

> odeadvisor(EcuacionDos)

[\_exact, \_rational] (15)

> MM := 2x - 3y

$$MM := 2x - 3y \quad (16)$$

> NN :=  $\frac{7}{y^2} - 3x$

$$NN := \frac{7}{y^2} - 3x \quad (17)$$

> INNy := int(NN, y)

$$INNy := -\frac{7}{y} - 3xy \quad (18)$$

> SolucionGeneral := INNy + int((MM - diff(INNy, x)), x) = \_C1

$$SolucionGeneral := -\frac{7}{y} - 3xy + x^2 = _C1 \quad (19)$$

> restart

> Ecua :=  $(x^2 + y^2 + 1) - 2 \cdot x \cdot y \cdot y' = 0$

$$Ecua := x^2 + y(x)^2 + 1 - 2xy(x) \left( \frac{d}{dx} y(x) \right) = 0 \quad (20)$$

> with(DEtools) :

> odeadvisor(Ecua)

[\_rational, \_Bernoulli] (21)

> FI := intfactor(Ecua)

$$FI := \frac{1}{x^2} \quad (22)$$

> EcuaDos := expand(FI·Ecua)

$$EcuaDos := 1 + \frac{y(x)^2}{x^2} + \frac{1}{x^2} - \frac{2y(x) \left( \frac{d}{dx} y(x) \right)}{x} = 0 \quad (23)$$

> odeadvisor(EcuaDos)

[\_exact, \_rational, \_Bernoulli] (24)

> MM :=  $1 + \frac{y^2}{x^2} + \frac{1}{x^2}$

$$MM := 1 + \frac{y^2}{x^2} + \frac{1}{x^2} \quad (25)$$

> NN :=  $-\frac{2y}{x}$

$$NN := -\frac{2y}{x} \quad (26)$$

$$\triangleright IMM_x := int(MM, x)$$

$$IMM_x := x - \frac{y^2}{x} - \frac{1}{x} \quad (27)$$

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> SolGral := IMMx + int( (NN - diff( IMMx, y ) ), y) = _C1
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$$SolGral := x - \frac{y^2}{x} - \frac{1}{x} = \_CI \quad (28)$$

 *restart*

