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> restart
> Ecuacion := diff(y(x), x) -  $\frac{y(x)}{x \cdot 2} = 0$ 

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$$Ecuacion := \frac{d}{dx} y(x) - \frac{y(x)}{x^2} = 0 \quad (1)$$

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> p :=  $-\frac{1}{x \cdot 2}$ 

```

$$p := -\frac{1}{x^2} \quad (2)$$

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> IntP := int(p, x)

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$$IntP := \frac{1}{x} \quad (3)$$

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> SolucionGeneral := y(x) = C1 * exp(-IntP)

```

$$SolucionGeneral := y(x) = C_1 e^{-\frac{1}{x}} \quad (4)$$

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> Comprobacion := simplify(eval(subs(y(x) = rhs(SolucionGeneral), Ecuacion)))

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$$Comprobacion := 0 = 0 \quad (5)$$

```

> SolGral := dsolve(Ecuacion)

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$$SolGral := y(x) = _C1 e^{-\frac{1}{x}} \quad (6)$$

```

> restart
> Ecuacion := diff(y(x), x) + 4*y(x) = 3*exp(3*x)

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$$Ecuacion := \frac{d}{dx} y(x) + 4 y(x) = 3 e^{3x} \quad (7)$$

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> a1 := 4; q := rhs(Ecuacion)

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$$a_1 := 4$$

$$q := 3 e^{3x} \quad (8)$$

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> SolucionGeneral := y(x) = simplify(C1 * exp(-a1*x) + exp(-a1*x) * int(exp(a1*x) * q, x))

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$$SolucionGeneral := y(x) = C_1 e^{-4x} + \frac{3}{7} e^{3x} \quad (9)$$

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> SolGral := expand(dsolve(Ecuacion))

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$$SolGral := y(x) = \frac{3}{7} (e^x)^3 + \frac{C1}{(e^x)^4} \quad (10)$$

```

> restart
> Ecuacion := diff(y(x), x) + 5*y(x) = 24*exp(x) + 5*x*2 + 2*x

```

$$Ecuacion := \frac{d}{dx} y(x) + 5 y(x) = 24 e^x + 5 x^2 + 2 x \quad (11)$$

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> SolGral := dsolve(Ecuacion)

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$$SolGral := y(x) = 4 e^x + x^2 + e^{-5x} _C1 \quad (12)$$

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>

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