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> restart
> EcuacionDiferencial := diff(y(x), x) = 0
      EcuacionDiferencial :=  $\frac{d}{dx} y(x) = 0$  (1)
> SolucionGeneral := dsolve(EcuacionDiferencial)
      SolucionGeneral :=  $y(x) = c_1$  (2)
> EcuaDifDos := diff(y(x), x) = y(x)
      EcuaDifDos :=  $\frac{d}{dx} y(x) = y(x)$  (3)
> SolGralDos := dsolve(EcuaDifDos)
      SolGralDos :=  $y(x) = c_1 e^x$  (4)
> Comprobar := eval(subs(y(x) = rhs(SolGralDos), lhs(EcuaDifDos) - rhs(EcuaDifDos) = 0))
      Comprobar :=  $0 = 0$  (5)
> restart
> Ecua := y'' + 5·y' + 6·y = 2·exp(3·x)
      Ecua :=  $\frac{d^2}{dx^2} y(x) + 5 \frac{d}{dx} y(x) + 6 y(x) = 2 e^{3x}$  (6)
> SolGral := dsolve(Ecua)
      SolGral :=  $y(x) = e^{-3x} c_2 + e^{-2x} c_1 + \frac{e^{3x}}{15}$  (7)
> SolGral := y(x) = e-3x c2 + e-2x c1
      SolGral :=  $y(x) = e^{-3x} c_2 + e^{-2x} c_1$  (8)
> SolPart := y(x) =  $\frac{e^{3x}}{15}$ 
      SolPart :=  $y(x) = \frac{e^{3x}}{15}$  (9)
> EcuaHom := lhs(Ecua) = 0
      EcuaHom :=  $\frac{d^2}{dx^2} y(x) + 5 \frac{d}{dx} y(x) + 6 y(x) = 0$  (10)
> ComprobarUno := simplify(eval(subs(y(x) = rhs(SolGral), EcuaHom)))
      ComprobarUno :=  $0 = 0$  (11)
> ComprobarDos := simplify(eval(subs(y(x) = rhs(SolPart), Ecua)))
      ComprobarDos :=  $2 e^{3x} = 2 e^{3x}$  (12)
> Ecua
       $\frac{d^2}{dx^2} y(x) + 5 \frac{d}{dx} y(x) + 6 y(x) = 2 e^{3x}$  (13)
>

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