

```

> restart
> Ecua := diff(y(x), x$2) - 5*diff(y(x), x) + 6*y(x) = 0
      Ecua :=  $\frac{d^2}{dx^2} y(x) - 5 \left( \frac{d}{dx} y(x) \right) + 6 y(x) = 0$  (1)
> SolGral := dsolve(Ecua)
      SolGral :=  $y(x) = \_C1 e^{3x} + \_C2 e^{2x}$  (2)
> EcuaCarac := m*2 - 5*m + 6 = 0
      EcuaCarac :=  $m^2 - 5m + 6 = 0$  (3)
> Raiz := solve(EcuaCarac)
      Raiz := 3, 2 (4)
> yy[1] := exp(Raiz[1]*x); yy[2] := exp(Raiz[2]*x)
      yy1 :=  $e^{3x}$ 
      yy2 :=  $e^{2x}$  (5)
> SolucionGeneral := y(x) = C[1]*yy[1] + C[2]*yy[2]
      SolucionGeneral :=  $y(x) = C_1 e^{3x} + C_2 e^{2x}$  (6)
> restart
> exp(Pi*I)
      -1 (7)
> restart
> Ecuacion := diff(y(x), x$2) + diff(y(x), x) + y(x) = 0
      Ecuacion :=  $\frac{d^2}{dx^2} y(x) + \frac{d}{dx} y(x) + y(x) = 0$  (8)
> SolucionGeneral := dsolve(Ecuacion)
      SolucionGeneral :=  $y(x) = \_C1 e^{-\frac{1}{2}x} \sin\left(\frac{1}{2}\sqrt{3}x\right) + \_C2 e^{-\frac{1}{2}x} \cos\left(\frac{1}{2}\sqrt{3}x\right)$  (9)
> restart
> Ecua := diff(y(x), x$2) - 2*diff(y(x), x) + y(x) = 0
      Ecua :=  $\frac{d^2}{dx^2} y(x) - 2 \left( \frac{d}{dx} y(x) \right) + y(x) = 0$  (10)
> SolGral := dsolve(Ecua)
      SolGral :=  $y(x) = \_C1 e^x + \_C2 e^x x$  (11)
>
>
>

```