> restart

> $Ecua := diff(z(x, y), x\$2) - 3 \cdot diff(z(x, y), x, y) + 2 \cdot diff(z(x, y), y\$2) = 0$

$$Ecua := \frac{\partial^2}{\partial x^2} z(x, y) - 3\left(\frac{\partial^2}{\partial y\, \partial x} z(x, y)\right) + 2\left(\frac{\partial^2}{\partial y^2} z(x, y)\right) = 0 \tag{1}$$

> $SolGral := pdsolve(Ecua)$

$$SolGral := z(x, y) = \_F1(y + x) + \_F2(y + 2\, x) \tag{2}$$

> $SolPart := z(x, y) = \cos(x + y) + 5 \cdot \exp(2 \cdot x + y)$

$$SolPart := z(x, y) = \cos(y + x) + 5\, e^{y + 2x} \tag{3}$$

> $Comprobar := eval(subs(z(x, y) = rhs(SolPart), Ecua))$

$$Comprobar := 0 = 0 \tag{4}$$

> $SolPartDos := z(x, y) = (x + y)^3 + \log(2x + y)$

$$SolPartDos := z(x, y) = (y + x)^3 + \ln(y + 2\, x) \tag{5}$$

> $ComprobarDos := eval(subs(z(x, y) = rhs(SolPartDos), Ecua))$

$$ComprobarDos := 0 = 0 \tag{6}$$

> $SolBalin := z(x, y) = \_F1(y + x) + \_F2(y + 3 \cdot x)$

$$SolBalin := z(x, y) = \_F1(y + x) + \_F2(y + 3\, x) \tag{7}$$

> $ComprobarTres := eval(subs(z(x, y) = rhs(SolBalin), Ecua))$

$$ComprobarTres := 2\, \mathrm{D}^{(2)}(\_F2)(y + 3\, x) = 0 \tag{8}$$

>