```
> restart
> Ecuacion := 2·y(x)·(diff(y(x),x) + 2) − x·(diff(y(x),x))^2 = 0
```

$$Ecuacion := 2\,y(x)\left(\frac{\mathrm{d}}{\mathrm{d}x}\,y(x)+2\right)-x\left(\frac{\mathrm{d}}{\mathrm{d}x}\,y(x)\right)^2=0 \tag{1}$$

```
> SolGral := y(x) = (_C1 − x)^2 / _C1
```

$$SolGral := y(x)=\frac{(\_C1-x)^2}{\_C1} \tag{2}$$

```
> ComprobacionUno := simplify(eval(subs(y(x) = rhs(SolGral), Ecuacion)))
```

$$ComprobacionUno := 0=0 \tag{3}$$

```
> Solucion := dsolve(Ecuacion)
```

$$Solucion := y(x)=-4\,x,\ y(x)=0,\ y(x)=\frac{x\left(-x+2\,c_1\right)^2}{2\,c_1{}^2\left(-\frac{-x+2\,c_1}{c_1}+2\right)} \tag{4}$$

```
> Solucion[1]
```

$$y(x)=-4\,x \tag{5}$$

```
> Solucion[2]
```

$$y(x)=0 \tag{6}$$

```
> simplify(Solucion[3])
```

$$y(x)=\frac{\left(x-2\,c_1\right)^2}{2\,c_1} \tag{7}$$

```
> SolGral
```

$$y(x)=\frac{\left(c_1-x\right)^2}{c_1} \tag{8}$$

```
> SolPartUno := subs(_C1 = 5, SolGral)
```

$$SolPartUno := y(x)=\frac{(5-x)^2}{5} \tag{9}$$

```
> SolPartDos := subs(_C1 = Pi, SolGral)
```

$$SolPartDos := y(x)=\frac{(\pi-x)^2}{\pi} \tag{10}$$

```
> ComprobacionDos := simplify(eval(subs(y(x) = rhs(SolPartUno), Ecuacion)))
```

$$ComprobacionDos := 0=0 \tag{11}$$

```
> ComprobacionTres := simplify(eval(subs(y(x) = rhs(SolPartDos), Ecuacion)))
```

$$ComprobacionTres := 0=0 \tag{12}$$

```
> ComprobacionCuatro := simplify(eval(subs(y(x) = rhs(Solucion[1]), Ecuacion)))
```

$$ComprobacionCuatro := 0=0 \tag{13}$$

```
> ComprobacionCinco := simplify(eval(subs(y(x) = rhs(Solucion[2]), Ecuacion)))
```

$$ComprobacionCinco := 0=0 \tag{14}$$