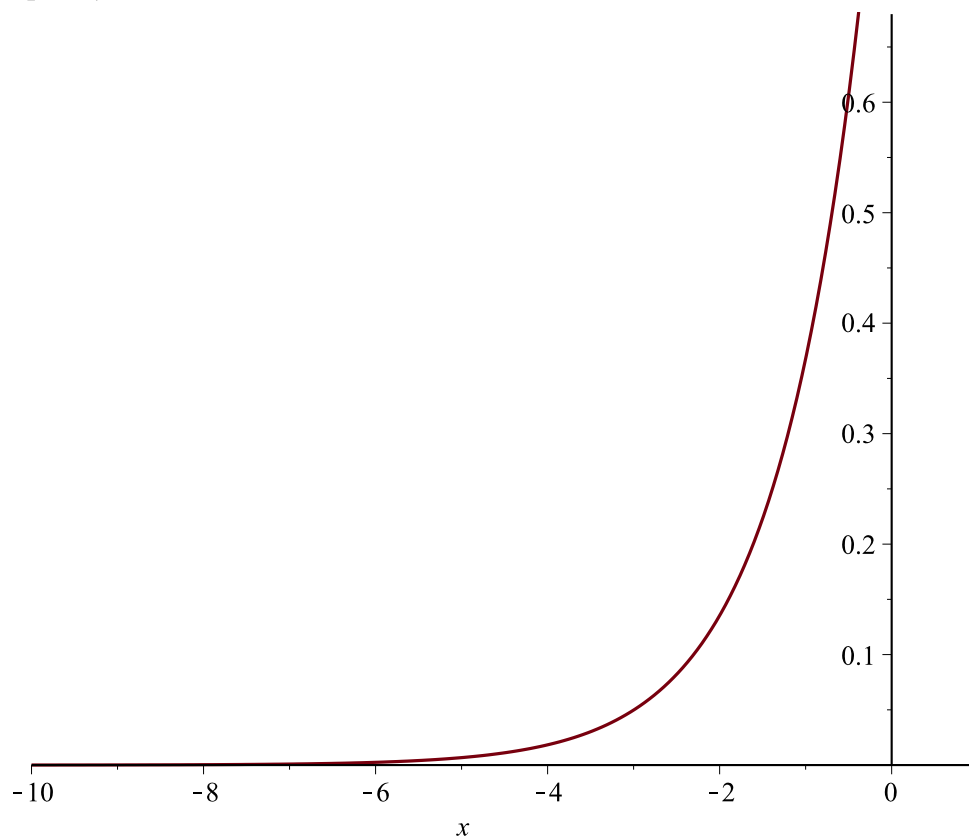


```
> restart
> f := exp(x)
```

$$f := e^x$$

(1)

```
> plot(f, x = -10..1)
```



```
> restart
> Ecuacion := y' - 5·y = 0
```

$$Ecuacion := \frac{d}{dx} y(x) - 5 y(x) = 0$$

(2)

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

$$SolucionGeneral := y(x) = _C1 e^{5x}$$

(3)

```
> EcuacionDos := y' + 8·y = 0
```

$$EcuacionDos := \frac{d}{dx} y(x) + 8 y(x) = 0$$

(4)

```
> SolucionDos := dsolve(EcuacionDos)
```

$$SolucionDos := y(x) = _C1 e^{-8x}$$

(5)

```
> restart
> g := int(x·exp(-3·x), x)
```

(6)

$$g := -\frac{1}{9} (3x + 1) e^{-3x} \quad (6)$$

> restart

> Ecuacion := y' - 3·y = 4·x

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

> SolucionGeneral := dsolve(Ecuacion)

$$SolucionGeneral := y(x) = -\frac{4}{3}x - \frac{4}{9} + e^{3x} _C1 \quad (8)$$

> restart

> Ecuacion := y'' - 7·y' + 12·y = 0

$$Ecuacion := \frac{d^2}{dx^2} y(x) - 7 \left(\frac{d}{dx} y(x) \right) + 12 y(x) = 0 \quad (9)$$

> EcuaCarac := m·2 - 7·m + 12 = 0

$$EcuaCarac := m^2 - 7m + 12 = 0 \quad (10)$$

> Raiz := solve(EcuaCarac)

$$Raiz := 4, 3 \quad (11)$$

> Raiz[1]; Raiz[2]

$$\begin{array}{c} 4 \\ 3 \end{array} \quad (12)$$

> Raiz[1] ≠ Raiz[2]

$$4 \neq 3 \quad (13)$$

> SolucionGeneral := y(x) = _C1·exp(Raiz[1]·x) + _C2·exp(Raiz[2]·x)

$$SolucionGeneral := y(x) = _C1 e^{4x} + _C2 e^{3x} \quad (14)$$

> SolGral := dsolve(Ecuacion)

$$SolGral := y(x) = _C1 e^{3x} + _C2 e^{4x} \quad (15)$$

> with(linalg) :

> WW := Wronskian([exp(Raiz[1]·x), exp(Raiz[2]·x)], x)

$$WW := \begin{bmatrix} e^{4x} & e^{3x} \\ 4e^{4x} & 3e^{3x} \end{bmatrix} \quad (16)$$

> det(WW) ≠ 0

$$-e^{4x} e^{3x} \neq 0 \quad (17)$$

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