

[illegible]

$$\begin{aligned} &> \text{dia}_{\text{habil}} := \text{semana}[1..5]; \\ &\qquad \text{dia}_{\text{habil}} := [\text{lunes}, \text{martes}, \text{miercoles}, \text{jueves}, \text{viernes}] \end{aligned} \quad (14)$$

$$\begin{aligned} &> \text{fin}_{\text{deSemana}} := \text{semana}[6..7]; \\ &\qquad \text{fin}_{\text{deSemana}} := [\text{sabado}, \text{domingo}] \end{aligned} \quad (15)$$

$$\begin{aligned} &> \text{DiasOrdenados} := \text{sort}(\text{semana}); \\ &\qquad \text{DiasOrdenados} := [\text{domingo}, \text{jueves}, \text{lunes}, \text{martes}, \text{miercoles}, \text{sabado}, \text{viernes}] \end{aligned} \quad (16)$$

$$\begin{aligned} &> \text{ConjuntoDia} := \{\text{dias}\}; \\ &\qquad \text{ConjuntoDia} := \{\text{domingo}, \text{jueves}, \text{lunes}, \text{martes}, \text{sabado}, \text{viernes}, \text{miercoles}\} \end{aligned} \quad (17)$$

$$\begin{aligned} &> \text{ConjuntoDia}[1..3]; \\ &\qquad \{\text{domingo}, \text{jueves}, \text{lunes}\} \end{aligned} \quad (18)$$

$$\begin{aligned} &> \text{simultaneas} := 3 \cdot x + 4 \cdot y = 5, 2 \cdot x - 2 \cdot y = -6 : \text{simultaneas}_1; \text{simultaneas}_2; \\ &\qquad \qquad \qquad 3x + 4y = 5 \\ &\qquad \qquad \qquad 2x - 2y = -6 \end{aligned} \quad (19)$$

$$\begin{aligned} &> \text{resolucion} := \text{solve}(\{\text{simultaneas}\}, \{x, y\}); \\ &\qquad \text{resolucion} := \{x = -1, y = 2\} \end{aligned} \quad (20)$$

$$\begin{aligned} &> \text{lhs}(\text{simultaneas}_1); \\ &\qquad \qquad \qquad 3x + 4y \end{aligned} \quad (21)$$

$$\begin{aligned} &> \text{rhs}(\text{simultaneas}_2); \\ &\qquad \qquad \qquad -6 \end{aligned} \quad (22)$$

$$\begin{aligned} &> \text{rhs}(\text{resolucion}_1); \\ &\qquad \qquad \qquad -1 \end{aligned} \quad (23)$$

$$\begin{aligned} &> \text{lhs}(\text{resolucion}_2); \\ &\qquad \qquad \qquad y \end{aligned} \quad (24)$$

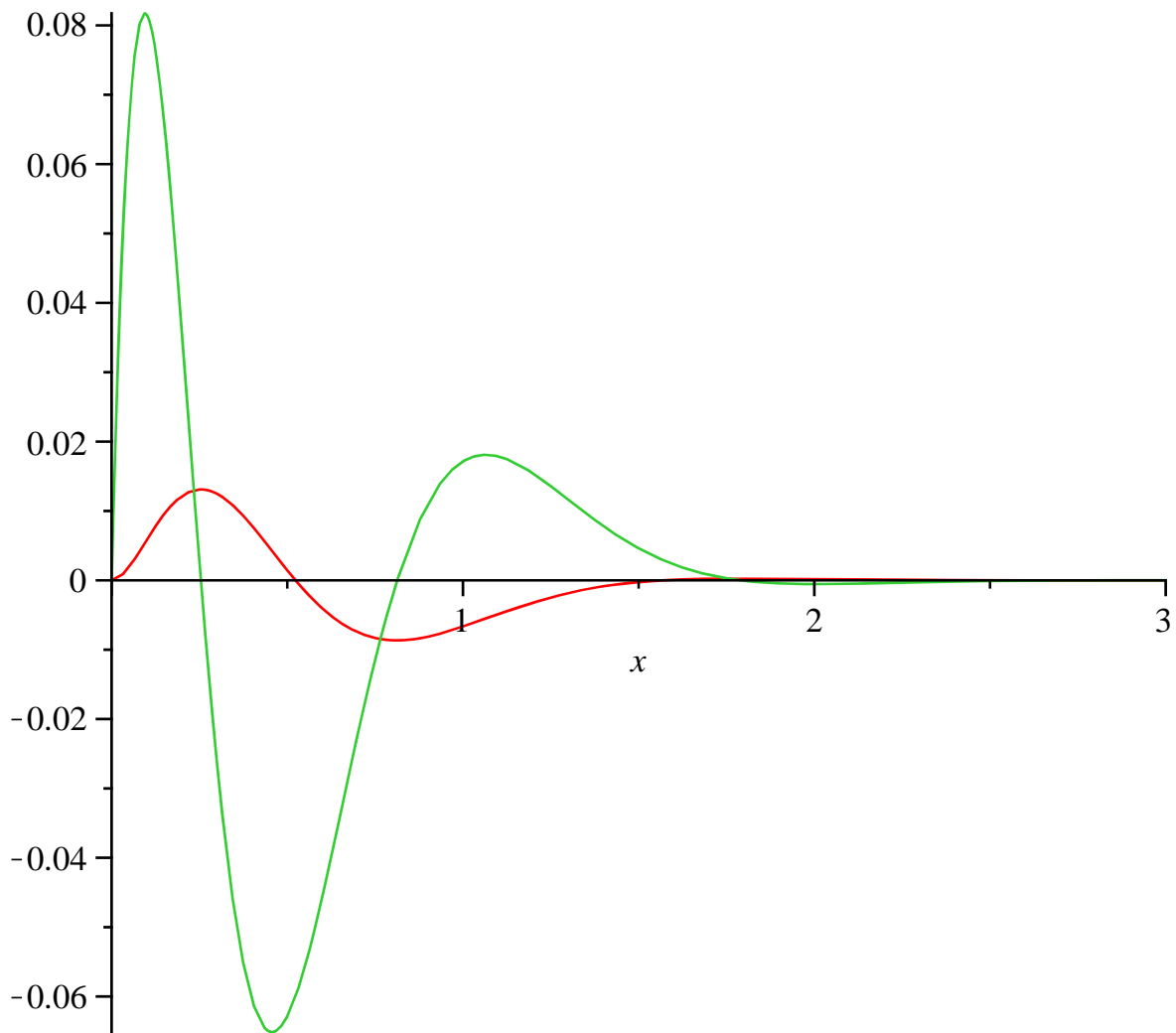
$$\begin{aligned} &> f(x) := x \cdot 2 \cdot \cos(3 \cdot x) \cdot \exp(-5 \cdot x); \\ &\qquad \qquad \qquad f(x) := x^2 \cos(3x) e^{-5x} \end{aligned} \quad (25)$$

$$\begin{aligned} &> \text{IntegralIndefinida} := \text{Int}(f(x), x) = \text{int}(f(x), x); \\ \text{IntegralIndefinida} &:= \int x^2 \cos(3x) e^{-5x} dx = \left(-\frac{5}{34} x^2 - \frac{8}{289} x + \frac{5}{9826} \right) e^{-5x} \cos(3x) - \left(\right. \\ &\quad \left. -\frac{3}{34} x^2 - \frac{15}{289} x - \frac{99}{9826} \right) e^{-5x} \sin(3x) \end{aligned} \quad (26)$$

$$\begin{aligned} &> \text{IntegralDefinida} := \text{Int}(f(x), x = -2..5) = \text{evalf}(\text{int}(f(x), x = -2..5), 20); \\ &\qquad \text{IntegralDefinida} := \int_{-2}^5 x^2 \cos(3x) e^{-5x} dx = 9663.7128435746750087 \end{aligned} \quad (27)$$

$$\begin{aligned} &> \text{Derivada} := \text{Diff}(f(x), x) = \text{diff}(f(x), x); \\ \text{Derivada} &:= \frac{d}{dx} (x^2 \cos(3x) e^{-5x}) = 2x \cos(3x) e^{-5x} - 3x^2 \sin(3x) e^{-5x} - 5x^2 \cos(3x) e^{-5x} \end{aligned} \quad (28)$$

$$> \text{plot}([f(x), \text{rhs}(\text{Derivada})], x = 0..3)$$



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> ?solve
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> F(x, y) := x·y·3 + x·2·y·2 - x·3·y;
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$$F(x, y) := x y^3 + x^2 y^2 - x^3 y \quad (29)$$

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> DerivadaDeDosVariables := Diff(F(x, y), y) = diff(F(x, y), y);
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$$DerivadaDeDosVariables := \frac{\partial}{\partial y} (x y^3 + x^2 y^2 - x^3 y) = 3 x y^2 + 2 x^2 y - x^3 \quad (30)$$

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> OtraDerivadaDoble := Diff(F(x, y), y, x) = diff(F(x, y), y, x);
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$$OtraDerivadaDoble := \frac{\partial^2}{\partial x \partial y} (x y^3 + x^2 y^2 - x^3 y) = 3 y^2 + 4 x y - 3 x^2 \quad (31)$$

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> NuevaDerivada := Diff(F(x, y), y$2) = diff(F(x, y), y, y);
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$$NuevaDerivada := \frac{\partial^2}{\partial y^2} (x y^3 + x^2 y^2 - x^3 y) = 6 x y + 2 x^2 \quad (32)$$

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