

Datos del Formulario

Nombre: miguel

Apellido: angel

Imagen cargada:

(*) Ecuación 10 *)

$$\text{DSolve}[D[y[x], \{x, 4\}] + 4 * D[y[x], \{x, 3\}] - 12 * D[y[x], \{x, 2\}] + 8 * D[y[x], x] - 3 * y[x] == \sin(2 * x), y[x], x]$$

Out[1]= {{y[x] → e^{-x} c₁ + e^{2 x} c₂ + e^{3 x} c₃}}

Out[2]= $\left\{\left\{y[x] \rightarrow c_3 \cos\left[\sqrt{2-\sqrt{3}} x\right]+c_1 \cos\left[\sqrt{2+\sqrt{3}} x\right]+c_4 \sin\left[\sqrt{2-\sqrt{3}} x\right]+c_2 \sin\left[\sqrt{2+\sqrt{3}} x\right]-\frac{\sqrt{(2-\sqrt{3})(2+\sqrt{3})} \cos\left[\sqrt{2-\sqrt{3}} x\right]^2 \sin[x]+\sqrt{3(2-\sqrt{3})(2+\sqrt{3})} \cos\left[\sqrt{2-\sqrt{3}} x\right]^2 \sin[x]-\sqrt{(2-\sqrt{3})(2+\sqrt{3})} \cos\left[\sqrt{2+\sqrt{3}} x\right]^2 \sin[x]+\sqrt{3(2-\sqrt{3})(2+\sqrt{3})} \cos\left[\sqrt{2+\sqrt{3}} x\right]^2 \sin[x]+\sqrt{(2-\sqrt{3})(2+\sqrt{3})} 2 \sqrt{3}(-1+\sqrt{3})(1+\sqrt{3})}\right\}\right\}$

Out[3]= {{y[x] → e^{-x} (-c₁-c₂-x c₂) + e^x ($\frac{x^2}{8} + \frac{1}{16}(11+16 c_3-16 c_4) + \frac{1}{2}x(-1+2 c_4)$) + c₃}}

Out[4]= {{y[x] → c₁ Cos[x] + x c₂ Cos[x] + x² c₃ Cos[x] + c₄ Sin[x] + x c₅ Sin[x] + x² c₆ Sin[x] + $\frac{1}{96}(9 \cos [x]-9 x^2 \cos [x]-6 x^2 \cos [x]^2+15 \cos [x] \cos [2 x]+3 x^2 \cos [x] \cos [2 x]+18 x \sin [x]-2 x^2 \sin [x]+18 x \cos [x]^2 \sin [x]-9 x \cos [2 x] \sin [x]+15 \sin [x] \sin [2 x])$ }}

Out[5]= {{y[x] → e ^{$\sqrt{-5.81... i}$} c₁ + e ^{$\sqrt{0.404...-0.725... i}$} c₂ + e ^{$\sqrt{0.404...+0.725... i}$} c₃

$i e^{\sqrt{0.404...-0.725... i}} \left(\frac{\text{ExpIntegralEi}\left[-x \sqrt{0.404...-0.725... i}\right]-e^{-x \sqrt{0.404...-0.725... i}} \log [x]}{4 \sqrt{201} \sqrt{0.404...-0.725... i}}\right)$

+

$i e^{\sqrt{0.404...+0.725... i}} \left(\frac{\text{ExpIntegralEi}\left[-x \sqrt{0.404...+0.725... i}\right]-e^{-x \sqrt{0.404...+0.725... i}} \log [x]}{4 \sqrt{201} \sqrt{0.404...+0.725... i}}\right)$

+

$i e^{\sqrt{-5.81... i}} \left(-\frac{\text{ExpIntegralEi}\left[x\left(5+\sqrt{0.404...-0.725... i}\right)+\sqrt{0.404...+0.725... i}\right)]}{4 \sqrt{201}\left(5+\sqrt{0.404...-0.725... i}+\sqrt{0.404...+0.725... i}\right)} \log [x]\right)\left(\sqrt{0.404...-0.725... i}-\sqrt{0.404...+0.725... i}\right)$