

```

[> restart
LA ECUACION DIFERENCIAL ORDINARIA PRIMER ORDEN LINEAL COEFICIENTES
VARIABLES HOMOGENEA
> Ecuacion := diff(y(x), x) + p(x)·y(x) = 0;
      Ecuacion :=  $\frac{d}{dx} y(x) + p(x) y(x) = 0$  (1)
> SolucionGeneral := dsolve(Ecuacion);
      SolucionGeneral :=  $y(x) = \_CI e^{\int (-p(x)) dx}$  (2)
> restart;
> Ecuacion := diff(y(x), x) +  $\frac{y(x)}{x \cdot \log(x)} = 0$ ;
      Ecuacion :=  $\frac{d}{dx} y(x) + \frac{y(x)}{x \ln(x)} = 0$  (3)
> SolucionGeneral := dsolve(Ecuacion);
      SolucionGeneral :=  $y(x) = \frac{\_CI}{\ln(x)}$  (4)
>
> comprobacion := simplify(eval(subs(y(x) = rhs(SolucionGeneral), Ecuacion)));
      comprobacion := 0 = 0 (5)
> restart :
> Ecuacion := int( $\frac{1}{y}$ , y) = -int(p(x), x);
      Ecuacion :=  $\ln(y) = -\left(\int p(x) dx\right)$  (6)
> Solucion := isolate(Ecuacion, y);
      Solucion :=  $y = \frac{1}{e^{\int p(x) dx}}$  (7)
> WSolucionGeneral := y(x) = CI·rhs(Solucion);
      WSolucionGeneral :=  $y(x) = \frac{CI}{e^{\int p(x) dx}}$  (8)
>

```