

# Calificar

Tareas, Series (5),

$$P_T = \frac{\sum_{j=1}^n T_j + \sum_{i=1}^5 S_i}{n+5}$$

Evaluaciones Semanales (10)

$$P_{ES} = \frac{\sum_{k=1}^m E_k}{m}$$

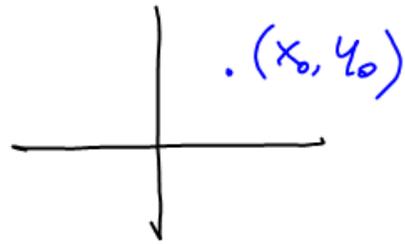
Exámenes parciales en Maple (3)

$$P_{EP} = \frac{\sum_{e=1}^3 E_e}{3}$$

$$P_S = \frac{P_{TS} + P_{ES} + P_{EP}}{3}$$

$$C_F = \frac{P_S + E_F}{2}$$

Teorema



$$\frac{dy}{dx} = F(x, y) \quad (x_0, y_0)$$

$F(x, y)$  es continua y existe.  
 $x_0, y_0$

$\frac{\partial F}{\partial y}$  es continua y existe.  
 $x_0, y_0$

entonces la Sol. particular  
 existirá y será única.

$$\frac{dy}{dx} - \frac{y}{x} = 0 \quad \text{EDO(1)L}$$

$$a_0(x) = 1 \quad a_1(x) = -\frac{1}{x} \quad Q(x) = 0$$

$$\left. \begin{array}{l} \frac{dy}{dx} = \frac{y}{x} \\ \frac{\partial F}{\partial y} = \frac{1}{x} \end{array} \right\} \begin{array}{l} F(x, y) = \frac{y}{x} \\ x_0 = 0 \end{array}$$

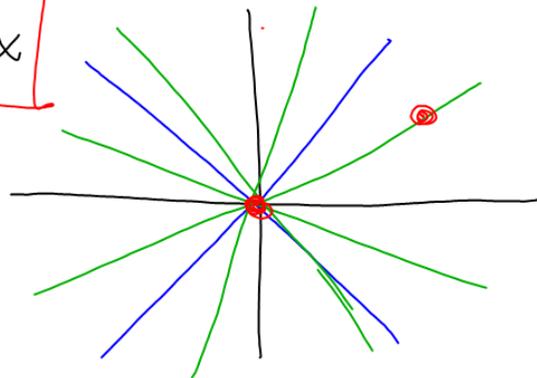
$$\frac{dy}{dx} = \frac{y}{x} \Rightarrow \frac{dy}{y} = \frac{dx}{x}$$

$$\int \frac{dy}{y} = \int \frac{dx}{x} \quad Ly = Lx + C$$

$$Ly - Lx = C$$

$$L\left(\frac{y}{x}\right) = C \rightarrow \frac{y}{x} = e^C \quad \frac{y}{x} = C_1$$

$$y = C_1 x$$



$$y = \frac{(c-x)^2}{c}$$

$$y = -4x$$

∴ Es SINGULAR

$$\frac{(c-x)^2}{c} = -4x$$

$$(c-x)^2 = -4cx$$

$$c^2 - 2xc + x^2 = -4cx$$

$$c^2 + 2xc + x^2 = 0$$

$$(c+x)^2 = 0$$

$$x \frac{dy^2}{dx} - 2y \frac{dy}{dx} + 4x = 0$$

$$y_1 = \frac{x^2 + C_1^2}{C_1} \quad y_2 = 2x \quad y_3 = -2x$$

$$y_4 = x^2 + 1 \quad y_5 = -2x^2 - \frac{1}{2}$$

### Resultado

- deriv. 1<sup>a</sup> y simult. inq. der.
- SG - tiene 1 cte. <sup>por</sup> 1<sup>er</sup> orden
- SS - porque no hay Valor Real de  $C_1$
- SS - " " " " " "
- SP -  $C_1 = 1$
- SP -  $C_1 = -\frac{1}{2}$