

EJERCICIO H2BE3387:

"achimager.com"

$$f(x) = \frac{2x^2 - 3x}{e^x}$$

Equación recta tangente en $x=1$:

$$y - f(a) = f'(a) \cdot (x - a)$$

$$\boxed{y - f(1) = f'(1) \cdot (x - 1)}$$

ECUACIÓN
RECTA
TANGENTE

$$f'(x) = \frac{(4x - 3) \cdot e^x - (2x^2 - 3x) \cdot e^x}{(e^x)^2} =$$

$$= \frac{e^x [(4x - 3) - (2x^2 - 3x)]}{(e^x)^2} =$$

$$= \frac{4x - 3 - 2x^2 + 3x}{e^x} = \frac{-2x^2 + 7x - 3}{e^x}$$

$$f'(1) = \frac{-2 \cdot 1^2 + 7 - 3}{e} = \frac{2}{e}$$

$$f(1) = \frac{2 \cdot 1^2 - 3 \cdot 1}{e^1} = \frac{-1}{e}$$

$$y - f(1) = f'(1) \cdot (x - 1)$$

$$y + \frac{1}{e} = \frac{2}{e}(x - 1)$$

$$y = \frac{2}{e}x - \frac{2}{e} - \frac{1}{e} \Rightarrow \boxed{y = \frac{2}{e}x - \frac{3}{e}}$$