

## SOLUCIONES DE LA REGLA DEL PRODUCTO

### 1. Deriva las siguientes funciones

Soluciones :

$$a'(x) = (x^3 + x^2 + x + 1) \cdot \left( \frac{x^{10}}{10} + \frac{x^5}{5} + 1 \right) + \left( \frac{x^4}{4} + \frac{x^3}{3} + \frac{x^2}{2} + x + 1 \right) \cdot (x^9 + x^4 + 1)$$

$$b'(x) = x \cdot (x + 2) \cdot e^x$$

$$c'(x) = e^x \cdot \left( \frac{1}{x} + \ln(x) \right)$$

$$d'(x) = \cos(x)^2 - \sin(x)^2$$

$$e'(x) = 144x^{11}$$

$$f'(x) = x \cdot (\cos(x)^2 - \sin(x)^2) + \sin(x) + \cos(x)$$

$$g'(x) = x \cdot (2 \ln(x) + 1)$$

$$h'(x) = e^x \cdot \frac{1 + 2x}{2 \cdot \sqrt{x}}$$

$$i'(x) = 17 \cdot (\ln(x) + 1)$$

$$j'(x) = 2 \cdot \sin(x) \cdot \cos(x)$$

$$k'(x) = 6^x \cdot x^9 \cdot (10 + x \cdot \ln(6))$$