Jose David Morales U00137642 Matemáticas Computacionales

PARCIAL

2) A. 15C5 = 15 X 14 X 13 X 12 X 11 X 10! / 10! X 5 X 4 X 3 X 2 X 1 = 3003 Formas Distintas

B. 9C3 = 9 X 8 X 7 X 6! / 6! X 3 X 2 X 1 = 84 Formas de seleccionar películas de terror

6C2 = 6 X 5 X 4! / 4! X 2 X 1 = 15 Formas de seleccionar películas de comedia

Unir combinatorias = 84 x 15 = 1260

C. 15 X 14 X 13 X 12 X 11 = 360360 Posibilidades

3)

$$Sen\ x = x - \frac{x^3}{3} + \frac{x^5}{5} - \frac{x^7}{7} + \frac{x^9}{9} - \cdots$$

$$sen\left(\frac{\pi}{4}\right)$$

Iteración #1:

$$sen\left(\frac{\pi}{4}\right) = \frac{\pi}{4}$$

$$Error = \frac{0{,}785 - 0{,}707}{0{,}707}\ x\ 100 = 11{,}033\%$$

Iteración #2:

$$sen\left(\frac{\pi}{4}\right) = \frac{\pi}{4} - \frac{\frac{\pi^3}{4}}{3!} = 0{,}705$$

$$Error = \frac{|0{,}705 - 0{,}707|}{0{,}707}\ x\ 100 = 0{,}3\%$$

Iteración #3:

$$sen\,(45) = \frac{\pi}{4} - \frac{\frac{\pi}{4}^3}{3!} + \frac{\frac{\pi}{4}^5}{5!} = 0{,}707$$

$$Error = \frac{|0{,}707 - 0{,}707|}{0{,}707}\ x\ 100 = 0\%$$