

UDS

ÁLGEBRA

paola diaz
Recursos humanos



$$\textcircled{1}. (3A^3 + 5A^2 - 4) \div (3A) :$$

$$\begin{array}{l} \times 3A^3 \div 3A = A^2 \\ \times 5A^2 \div 3A = \frac{5}{3}A \\ \times -4 \div 3A = -\frac{4}{3A} \end{array}$$

$$\begin{array}{r} \text{Resultado} \\ A^2 + \frac{5}{3}A - \frac{4}{3A} \end{array}$$

$$\textcircled{2}. \left(\frac{2}{3} A^2 B^2 - \frac{1}{4} A^2 B^2 + \frac{5}{6} AB^4 - \frac{2}{5} B^5 \right) \div \left(-\frac{1}{2} AB^2 \right) :$$

$$1. \frac{2}{3} A^2 B^2 \div -\frac{1}{2} AB^2 = -\frac{4}{3} A$$

$$2. -\frac{1}{4} A^2 B^2 \div -\frac{1}{2} AB^2 = \frac{1}{2} AB^2$$

$$3. \frac{5}{6} AB^4 \div -\frac{1}{2} AB^2 = -\frac{5}{3} B^2$$

$$4. -\frac{2}{5} B^5 \div -\frac{1}{2} AB^2 = \frac{4}{5} AB^3$$

Resultado:

$$-\frac{4}{3} A + \frac{1}{2} AB^2 - \frac{5}{3} B^2 + \frac{4}{5} AB^3$$

$$\textcircled{3}. (x^4 - 2x^3 - 11x^2 + 30x - 20) \div (x^2 + 3x - 2) :$$

$$\begin{array}{l} x^4 \div x^2 = x^2 \\ -5x^3 - 9x^2 + 30x - 20 \\ -5x^3 \div x^2 = -5x \\ 6x^2 + 20x - 20 \end{array}$$

$$6x^2 \div x^2 = 6$$

Resultado:

$$x^2 - 5x + 6$$

$$4. (x^6 + 5x^4 + 3x^2 - 2x) \div (x^2 - x + 3) :$$

Resultado:

$$\begin{aligned} x^6 \div x^2 &= x^4 \\ x^5 + 2x^4 + 3x^2 - 2x \\ x^5 \div x^2 &= x^3 \\ 3x^4 \div x^2 &= 3x^2 \\ -6x^2 - 2x \end{aligned}$$

$$x^4 + x^3 + 3x^2 - 6$$

$$5. (2x^4 - 2x^3 + 3x^2 + 5x + 10) \div (x + 2) :$$

$$\begin{array}{r|rrrrrr} -2 & 2 & -2 & 3 & 5 & 10 \\ & -4 & 12 & -30 & 50 & \\ \hline & 2 & -6 & 15 & -25 & 60 \end{array}$$

$$\text{Resultado: } 2x^3 - 6x^2 + 15x - 25$$

$$6. (x^{10} - 10x^4 + 24) \div (x + 2)$$

binomio:

de coeficientes:

$$1, -2, 4, -8, 16, -32, 64, -128, 256, -512$$

Resultado:

$$x^9 - 2x^8 + 4x^7 - 8x^6 + 16x^5 - 32x^4 + 64x^3 - 128x^2 + 256x - 512$$

$$7. (x^3 - 5x - 1) \div (x - 3) :$$

$$\begin{array}{r|rrrr} 3 & 1 & 0 & -5 & -1 \\ & 3 & 9 & 12 & \\ \hline & 1 & 3 & 4 & 11 \end{array}$$

Resultado

$$x^2 + 3x + 4$$

$$⑧. (R^4 S^3 T^2 U)^5$$

Multiplicado:

$$R^{20} S^{15} T^{10} U^5$$

$$⑨. (-A^3 B^4 C^2 D^5)^6$$

Multiplicado:

$$A^{18} B^{24} C^{12} D^{30}$$

Resultado:

Signo:

$$(-1)^6 = 1$$

$$A^{18} B^{24} C^{12} D^{30}$$

$$⑩. (-3x^6 y^3 z^2)(-3x^6 y^3 z^2)$$

Coefficientes:

$$(-3)(-3) = 9$$

Sumar exponentes:

$$x^{12}, y^6, z^4$$

Resultado:

$$9x^{12}y^6z^4$$

$$⑪. (2/5 A^2 B - 4/3 AB - 4)(3/2 AB^2)$$

Multiplicado por término:

$$2/5 A^2 B \cdot 3/2 AB^2 = 3/5 A^3 B^3$$

$$-4/3 AB \cdot 3/2 AB^2 = -2A^2 B^3$$

$$-4 \cdot 3/2 AB^2 = -6AB^2$$

Resultado:

$$3/5 A^3 B^3 - 2A^2 B^3 - 6AB^2$$

$$\textcircled{12} \cdot (3x^3 + 2y^2)(3x^3 + 2y^2)^2 :$$

$$(3x^3 + 2y^2)^2 = 9x^6 + 12x^3y^2 + 4y^4$$

Multiplicado: $(3x^3 + 2y^2) :$

$$\text{Resultado: } \frac{27x^9}{8y^6} + 54x^6y^2 + 36x^3y^4 +$$

$$\textcircled{13} \cdot \left(\frac{2}{6} A^3 + \frac{1}{3} B^2\right)^2 :$$

Simplificado:

$$\frac{2}{6} = \frac{1}{3} \quad \left(\frac{1}{3} A^3 + \frac{1}{3} B^2\right)^2$$

Aplicar binomio:

$$\frac{1}{9} A^6 + \frac{2}{9} A^3 B^2 + \frac{1}{9} B^4$$