

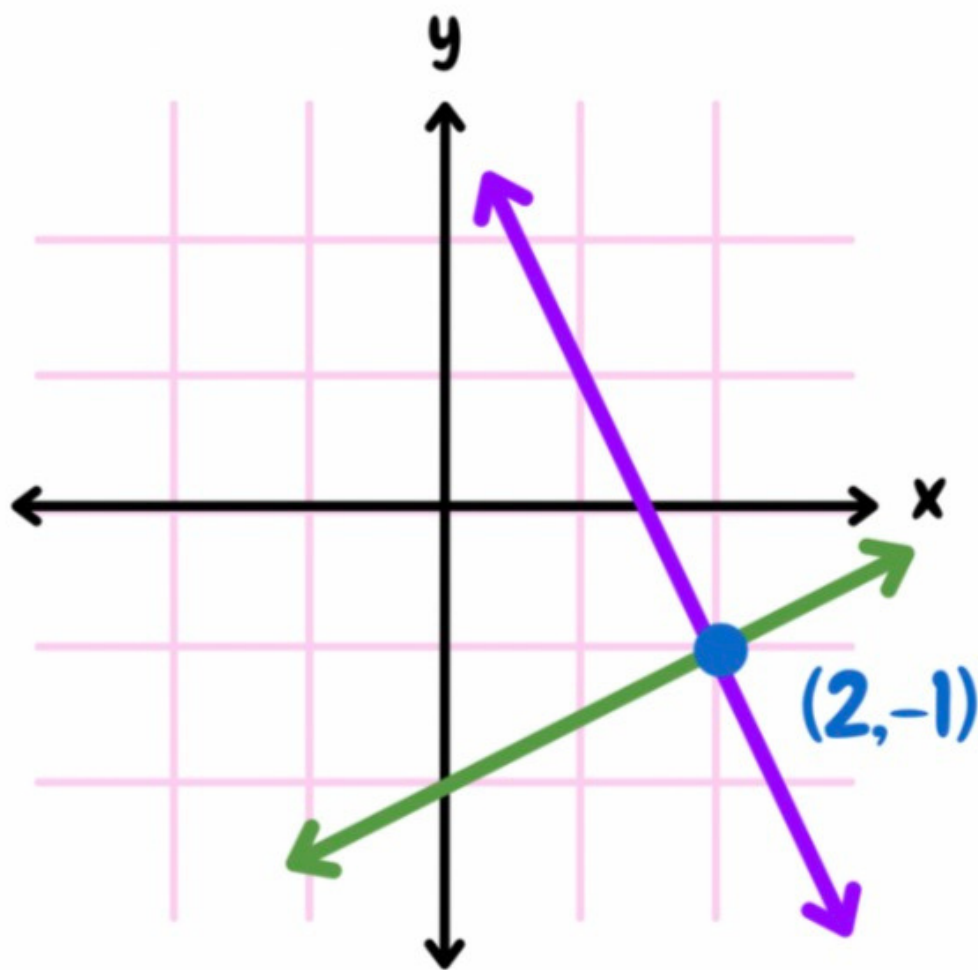
Notes

UDS

ANTOLOGIA

ÁLGEBRA

RECURSOS HUMANOS



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PROBLEMATARIO

1 $(3a^3 + 5a^2 - 4) \div (3a)$

$$\frac{3a^3}{3a} + \frac{5a^2}{3a} - \frac{4}{3a}$$

$$R = a^2 + \frac{5}{3}a - \frac{4}{3a}$$

2 $(\frac{2}{3}a^2b^2 - \frac{1}{4}a^2b^4 + \frac{5}{6}ab^4 - \frac{2}{5}b^5) \div (-\frac{1}{2}ab^2)$

$$\frac{\frac{2}{3}a^2b^2}{-\frac{1}{2}ab^2} - \frac{\frac{1}{4}a^2b^4}{-\frac{1}{2}ab^2} + \frac{\frac{5}{6}ab^4}{-\frac{1}{2}ab^2} - \frac{\frac{2}{5}b^5}{-\frac{1}{2}ab^2}$$

$$-\frac{3}{4}ab + \frac{2}{4}ab^2 - \frac{10}{6}ab^2 + \frac{4}{5}ab^3$$

$$R = -\frac{3}{4}a + \frac{1}{2}ab^2 - \frac{5}{3}b^2 + \frac{4}{5}ab^3$$

3 $(x^4 - 2x^3 - 11x^2 + 30x - 20) \div (x^2 + 3x - 2)$

$$\begin{array}{r} x^2 - 5x + 6 \\ x^2 + 3x - 2 \overline{) x^4 - 2x^3 - 11x^2 + 30x - 20} \\ \underline{x^4 - 3x^3 - 2x^2} \\ -5x^3 - 9x^2 + 30x \\ \underline{+ 5x^3 + 15x^2 - 10x} \\ 6x^2 + 20x - 20 \\ \underline{- 6x^2 - 18x + 12} \\ 2x - 8 \end{array}$$

$$R = x^2 - 5x + 6 + \frac{2x - 8}{x^2 + 3x - 2}$$

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

$$\begin{array}{r}
 x^4 + x^3 + 3x^2 - 6 \\
 x^2 - x + 3 \overline{) x^6 + 0x^5 + 5x^4 + 0x^3 + 3x^2 - 2x + 0} \\
 \underline{-x^6 + x^5 - 3x^4} \\
 x^5 + 2x^4 + 0x^3 \\
 \underline{-x^5 + x^4 - 3x^3} \\
 3x^4 - 3x^3 + 3x^2 \\
 \underline{-3x^4 + 3x^3 - 9x^2} \\
 -6x - 2x + 0 \\
 \underline{6x - 6x + 18} \\
 -8x + 18
 \end{array}$$

$$R = x^4 + x^3 + 3x^2 - 6 + \frac{-8x + 18}{x^2 - x + 3}$$

5 $(x^4 - 2x^3 - 11x^2 + 30x - 20) \div (x^2 + 3x - 2)$

Es el mismo Problema, del
Ejercicio 3

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

Mismo ejercicio que el 4.

$$7 \ (2x^4 - 2x^3 + 3x^2 + 5x + 10) \div (x+2)$$

$$\begin{array}{r} 2x^3 - 6x^2 + 15x + 35 \\ x+2 \overline{) 2x^4 - 2x^3 + 3x^2 + 5x + 10} \end{array}$$

$$\underline{2x^4 - 4x^3}$$

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

$$\underline{6x^3 + 12x^2}$$

$$15x^2 + 5x$$

$$\underline{15x^2 + 30x}$$

$$35x + 10$$

$$\underline{35x - 70}$$

$$-60$$

$$R = 2x^3 - 6x^2 + 15x + 35 + \frac{-60}{x+2}$$

$$8 \ (x^{10} - 1024) \div (x+2)$$

$$\begin{array}{r} x^9 \\ x+2 \overline{) x^{10} - 1024} \\ \underline{x^{10} - 18x^9} \\ -1042x^9 \end{array}$$

$$9 \ (x^3 - 5x - 1) \div (x-3)$$

$$\begin{array}{r} x^2 + 3x + 1 \\ x-3 \overline{) x^3 + 0x^2 - 5x - 1} \end{array}$$

$$\underline{x^3 + 3x^2}$$

$$3x^2 - 5x$$

$$\underline{3x^2 + 6x}$$

$$x - 1$$

$$x + 3$$

$$R = x^2 + 3x + 1 + \left(\frac{2}{x-3} \right)$$

$$10 (R^4 S^3 T^2 U)^5$$

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

$$11 (-a^3 b^4 c^2 d^5)^6$$

$$R = -a^{18} b^{24} c^{12} d^{30}$$

$$12 (-3x^6 y^3 z^2)(-3x^6 y^3 z^2)$$

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

$$13 \left(\frac{2}{5} a^2 b - \frac{4}{3} ab - 4 \right) \left(\frac{3}{2} ab^2 \right)$$

$$R = \frac{3}{5} a^3 b^3 - 2a^2 b^3 - 6ab^2$$

$$14 (3x^3 + 2y)(3x^3 + 2y^3)$$

$$R = 9x^6 + 12x^3 y^3 + 4y^5$$

$$15 \left(\frac{2}{3} a^3 + \frac{1}{3} b^2 \right) \left(\frac{2}{3} a^3 + \frac{1}{3} b^2 \right)$$

$$R = \frac{1}{9} a^4 + \frac{2}{9} a^3 b^2 + \frac{1}{3} b^4$$