



PROBLEMARIO

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Parcial 3

Nombre de la Materia : ALGEBRA

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$$1: (3A^3 + 5A^2 - 4) : (3A)$$

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

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

$$A^2 + \frac{5}{3}A + \frac{4}{3A}$$

$$2: (2/3 A^2 B^2 - 1/4 A^2 B^4 + 5/6 A B^4 - 2/5 B^5) : (-1/2)$$

$$\frac{2/3 A^2 B^2 - 1/4 A^2 B^4 + 5/6 A B^4 - 2/5 B^5}{-1/2 A B^3}$$

$$\frac{2}{6} A - \frac{1}{8} A B^2 + \frac{5}{12} B^2 - \frac{2}{16} A B^3$$

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

$$\begin{array}{r} x^2 + 3x - 2 \overline{) x^4 - 2x^3 - 11x^2 + 30x - 20} \\ \underline{-x^4 - 3x^3 + 2x^2} \\ 5x^3 - 9x^2 + 30x \\ \underline{-5x^3 - 15x^2 + 10x} \\ -24x^2 + 40x - 20 \\ \underline{24x^2 + 72x - 48} \\ 112x - 68 \end{array}$$

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

$$5x^3 - 9x^2 + 30x$$

$$-5x^3 - 15x^2 + 10x$$

$$-24x^2 + 40x - 20$$

$$24x^2 + 72x - 48$$

$$112x - 68$$

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

$$x^4 + x^3 + 3x^2 + 0x - 6$$

$$x^2 - x + 3 \overline{) x^6 + 0x^5 + 5x^4 + 0x^3 + 3x^2 - 2x + 0}$$

$$-x^6 + x^5 - 3x^4$$

$$x^5 + 2x^4 + 0x^3 + 3x^2 - 2x$$

$$-x^5 + x^4 - 3x^3$$

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

$$-3x^4 + 3x^3 - 9x^2 - 2x$$

$$-6x^2 - 2x + 0$$

$$6x^2 - 6x - 18$$

$$8x - 18$$

$$5. (x^4 - 2x^3 - 11x^2 - 30x) : (x^2 + 3x - 2)$$

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

$$x^2 + 3x - 2 \overline{) x^4 - 2x^3 - 11x^2 - 30x}$$

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

$$-5x^3 - 9x^2 - 30x$$

$$5x^3 + 15x^2 - 10x$$

$$0x^2 + 6x - 20$$

$$-6x^2 - 18x + 12$$

$$2x - 8$$

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

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

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

$$\begin{array}{r}
 2x^3 - 6x^2 + 15x - 25 \\
 \hline
 x + 2 \mid 2x^4 - 2x^3 + 3x^2 + 5x + 10 \\
 \underline{-2x^4 - 4x^3} \\
 -6x^3 + 3x^2 + 5x + 10 \\
 \underline{6x^3 + 12x^2} \\
 15x^2 + 5x + 10 \\
 \underline{-15x^2 - 30x} \\
 -25x + 10 \\
 \underline{25x + 50} \\
 60
 \end{array}$$

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

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

$$x+2 \begin{array}{r} x^9 + 0x^8 + 0x^7 + 0x^6 + 0x^5 + 0x^4 + 0x^3 + 0x^2 + 0x - 1024 \\ -x^9 - 2x^8 \\ \hline 0 + 2x^8 + 0x^7 + 0x^6 + 0x^5 + 0x^4 + 0x^3 + 0x^2 + 0x - 1024 \end{array}$$

$$2x^8 + 4x^7 - 1024$$

$$2x^8 + 4x^7 - 1024$$

$$-4x^7 - 8x^7 - 1024$$

$$-8x^7 + 0x^6 - 1024$$

$$8x^7 + 16x^6 - 1024$$

$$16x^6 + 0x^5 - 1024$$

$$-16x^6 - 32x^5 - 1024$$

$$-32x^5 + 0x^4 - 1024$$

$$32x^5 + 64x^4 - 1024$$

$$64x^4 + 0x^3 - 1024$$

$$64x^4 + 128x^3 - 1024$$

$$-128x^3 + 0x^2 - 1024$$

$$128x^3 + 256x^2 - 1024$$

$$256x^2 + 0x - 1024$$

$$-256x^2 - 512$$

$$-512 - 1024$$

$$512 + 1024$$

$$9: (x^3 - 5x - 1) : (x-3)$$

$$x^2 + 3x + 9$$

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

$$-3x^2 + 9x$$

$$4x - 1$$

$$-4x + 12$$

$$11$$

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

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

$$(R^8 S^6 T^4 U^2) (R^4 S^3 T^2 U)$$

$$(R^{12} S^9 T^6 U^3) (R^4 S^3 T^2 U)$$

$$(R^{16} S^{12} T^8 U^4) (R^4 S^3 T^2 U)$$

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

$$11: (-A^3 B^4 C^2 D^5)^6$$

$$(-A^3 B^4 C^2 D^5) (-A^3 B^4 C^2 D^5)$$

$$(-A^6 B^8 C^4 D^{10}) (-A^3 B^4 C^2 D^5)$$

$$(-A^9 B^{12} C^6 D^{15}) (-A^3 B^4 C^2 D^5)$$

$$(-A^{12} B^{16} C^8 D^{20}) (-A^3 B^4 C^2 D^5)$$

$$(-A^{15} B^{20} C^{10} D^{25}) (-A^3 B^4 C^2 D^5)$$

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