



Mi Universidad

**Nombre del alumno: Elisema jacqueline
cruz cruz.**

Parcial: 3

Nombre de la Materia: álgebra

**Nombre de la carrera: bachiller en
enfermería**

Cuatrimestre: 1

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

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

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

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

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

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

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

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

$$\begin{array}{r} x^2 + 3x - 2 \overline{) x^4 - 2x^3 - 11x^2 + 30x - 20} \\ \underline{x^4 + 3x^3 + 2x^2} \\ -5x^3 - 9x^2 + 30x \\ \underline{-5x^3 - 15x^2 - 10x} \\ 6x^2 + 40x - 20 \\ \underline{6x^2 + 18x - 12} \\ 22x - 8 \end{array}$$

$R = 22x - 8$

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

$$\begin{array}{r} x^2 - x + 3 \overline{) x^6 + 0x^5 - 5x^4 + 0x^3 + 3x^2 - 2x} \\ \underline{-x^6 + 1x^5 - 3x^4} \\ 1x^5 + 2x^4 + 0x^3 \\ \underline{-1x^5 + 1x^4 - 3x^3} \\ 3x^4 - 3x^3 + 3x^2 \\ \underline{-3x^4 + 3x^3 - 9x^2} \\ 0x^4 + 0x^3 - 6x^2 \\ \underline{-6x^2 + 6x} \\ 0x^2 + 0x - 2x \\ \underline{-2x} \\ 0x^2 + 0x + 0 \end{array}$$

$$(587517) : (2885-48 \dots) + 49 - 1x^2 - 2x + 8 \dots$$

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

$$5. (x^4 - 2x^3 - 11x^2 + 30x - 20) : (x^2 - 3x - 2)$$

$$\begin{array}{r} x^2 - 3x - 2 \overline{) x^4 - 2x^3 - 11x^2 + 30x - 20} \\ \underline{-x^4 + 3x^3 + 2x^2} \\ 1x^3 - 9x^2 + 30x \\ \underline{-1x^3 + 3x^2 + 2x} \\ -6x^2 + 32x - 20 \\ \underline{-6x^2 + 18x + 12} \\ 0x^2 + 14x - 32 \end{array}$$

$$x^2 - 3x - 2 \left(\frac{14x - 32}{x^2 - 3x - 2} \right)$$

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

$$\begin{array}{r}
 x^4 + 8x^2 - 2x \\
 x^2 - x + 3 \overline{) 1x^6 + 5x^4 + 3x^2 - 2x} \\
 \underline{-x^6 + 1x^5 - 3x^4} \\
 1x^5 - 8x^4 + 0x^3 \\
 \underline{1x^5 - 1x^4 - 3x^3} \\
 -9x^4 - 3x^3 + 3x^2 \\
 \underline{-1x^4 - 1x^3 + 3x^2} \\
 -8x^4 - 4x^3 - 2x
 \end{array}$$

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

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

$$x^5 + x \left(\frac{4(2x)}{x+2} \right)$$

$$8. (x^{16} - 1024) : (x+2)$$

$$\begin{array}{r} x^9 - 511x \\ x+2 \overline{) x^{10} - 1024} \\ \underline{-x^{10} + 2x^9} \\ -1022 \\ \underline{1022} \\ 0 \end{array}$$

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

$$\begin{array}{r} x^2 + 3x + 1 \\ x-3 \overline{) x^3 + 0x^2 - 5x - 1} \\ \underline{x^3 - 3x^2} \\ 3x^2 - 5x - 1 \\ \underline{3x^2 - 9x} \\ 1x^2 + 3x - 1 \\ \underline{1x^2 - 3x} \\ 2x - 8x - 1 \\ \underline{2x - 6x} \\ -4x - 1 \end{array}$$

$$R = x^2 + x \left(\frac{2x^2 + 8x}{x-3} \right)$$

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

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

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

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

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

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

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

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

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

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

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

$$A^{18} B^{21} C^{12} D^{30}$$

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

$$\frac{-3x^6 y^3 z^2}{-3x^6 y^3 z^2} = R = 0$$

$$13. \left(\frac{2}{5} A^2 B - \frac{4}{3} AB - 4\right) \left(\frac{2}{3} AB^2\right)$$

$$\frac{\frac{2}{5} A^2 B}{\frac{3}{2} AB} - \frac{\frac{4}{3} AB}{\frac{3}{2} AB^2} - 4 = \frac{15}{4} AB - \frac{9}{2} A B^{-1}$$

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

$$\frac{(3x^3 + 2y^3)(3x^3 + 2y^3)^2}{9^6 + 6x^3y^3 + 4y^6}$$

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

$$R = 27x^9 + 36x^6 + 18x^3y^3 + 8y^9$$

$$15. \left(\frac{2}{6} A^3 + \frac{1}{3} B^2\right) \left(\frac{2}{6} A^3 + \frac{1}{3} B^2\right)$$

$$\frac{\frac{2}{6} A^3}{\frac{2}{6} A^3} + \frac{\frac{1}{3} B^2}{\frac{1}{3} B^2} = R = \frac{1}{12} A^3 + \frac{2}{6} B^1$$