



Mi Universidad

problematario

Nombre del Alumno Estefany de Lourdes López Jiménez

Nombre del tema OPERACIONES FUNDAMENTALES

3er Parcial

Nombre de la Materia ALGEBRA

Nombre del profesor Juan José Ojeda Trujillo

Nombre de la Licenciatura técnico en enfermería

Primer semestre

PROBLEMATARIO

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

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

2 $(\frac{2}{3}A^2B^2 - \frac{1}{4}A^2B^4 + \frac{5}{6}AB^4 - \frac{2}{15}B^2) : (-\frac{1}{2}AB^2)$

$$-\frac{2}{3} \frac{A^2B^2}{AB^2} + \frac{1}{4} \frac{A^2B^4}{AB^2} - \frac{5}{6} \frac{AB^4}{AB^2} + \frac{2}{15} \frac{B^2}{AB^2} = -\frac{2}{3}A + \frac{1}{4}AB^2 - \frac{5}{6}B + \frac{2}{15} \frac{1}{A}$$

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

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

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

$$\begin{array}{r} x^4 - x^3 + 10x^2 - 12x + 18 \\ x^2 - x + 3 \overline{) x^6 + 5x^4 + 3x^2 - 2x + 0} \\ \underline{x^6 - x^5 + 3x^4} \\ x^5 + 2x^4 + 0x^3 \\ \underline{x^5 + x^4 - 3x^3} \\ 3x^3 - 5x^2 + 3x^2 \\ \underline{3x^3 + 3x^2 - 9x^2} \\ -6x^2 - 2x + 0 \\ \underline{-6x^2 - 6x + 18} \\ -8x + 18 \end{array}$$

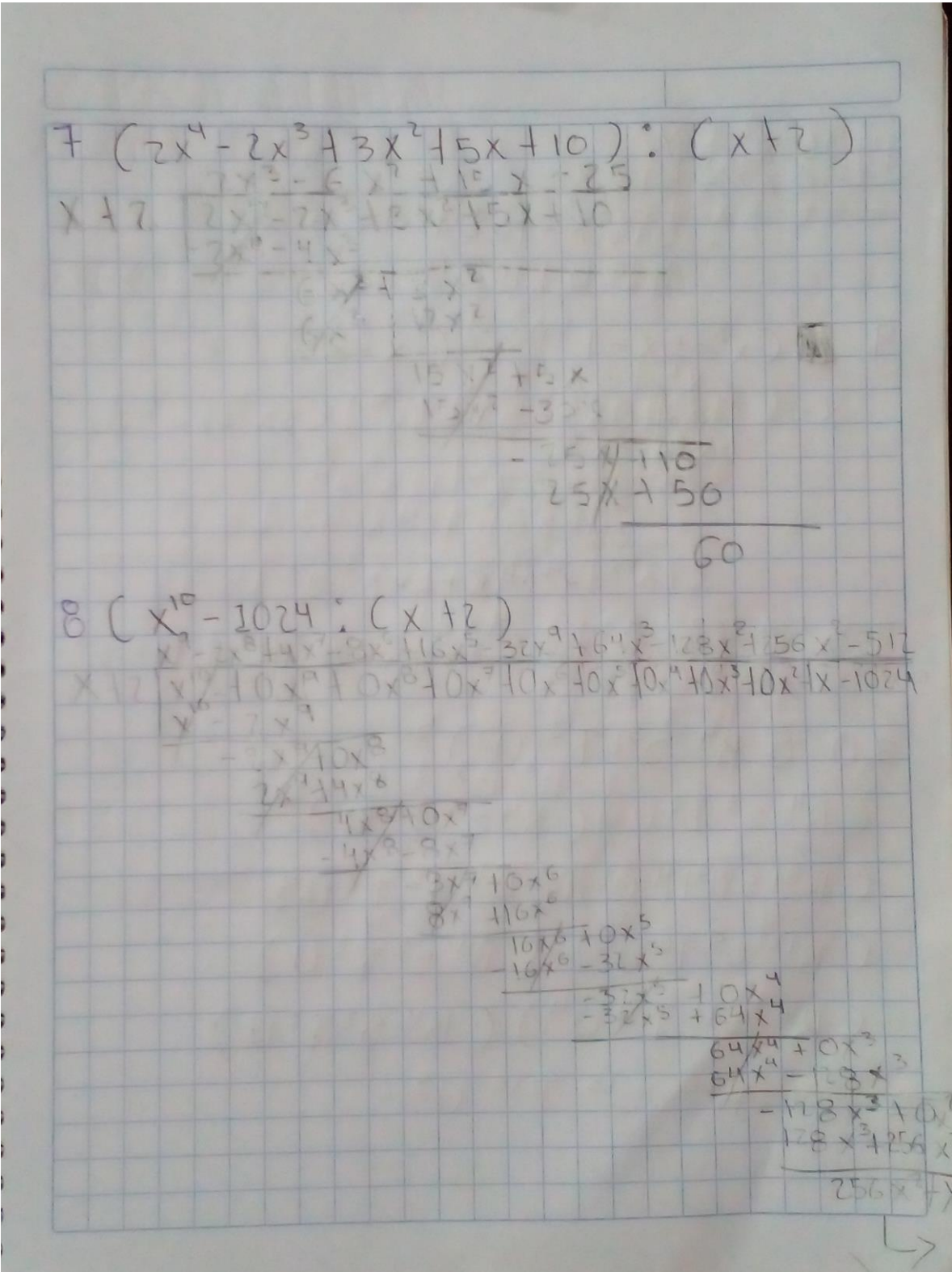
$$5 \quad (x^4 - 2x^3 - 11x^2 + 30x - 20) : (x^2 + 3x - 2)$$

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

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

$$\begin{array}{r}
 x^6 + 5x^4 + 3x^2 - 2x \\
 \underline{x^6 - x^5 + 3x^4 + 6x^3} \\
 10x^5 + 2x^4 + 3x^2 - 2x \\
 \underline{-10x^5 + 10x^4 - 30x^3} \\
 12x^4 - 28x^3 + 3x^2 - 2x \\
 \underline{-12x^4 + 12x^3 - 36x^2} \\
 40x^3 - 33x^2 - 2x \\
 \underline{-40x^3 + 40x^2 - 120x} \\
 7x^2 - 118x
 \end{array}$$

$$\begin{array}{r}
 6x^2 - 2x + 0 \\
 \underline{6x^2 + 6x - 18} \\
 4x - 18
 \end{array}$$



$$\begin{array}{r} 56x^2 + 1x \\ 25x^2 - 512x \\ \hline -512x = 1024 \\ 5x^2 + 1024 \end{array}$$

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

$$\begin{array}{r} x^2 + 3x + 4 \\ x-3 \overline{) x^3 + 0x^2 - 5x - 1} \\ \underline{-x^3 + 3x^2} \\ 3x^2 - 5x \\ \underline{3x^2 + 9x} \\ 4x - 1 \\ \underline{4x + 12} \\ 11 \end{array}$$

$$\begin{aligned} & \text{I O } (R^4 S^3 T^2 U)^5 \\ & (R^4 S^3 T^2 U)(R^4 S^3 T^2 U) \\ & (R^8 S^6 T^4 U^2)(R^4 S^3 T^2 U) \\ & (R^{12} S^9 T^6 U^3)(R^4 S^3 T^2 U) \\ & (R^{16} S^{12} T^8 U^4)(R^4 S^3 T^2 U) \\ & R = R^{20} S^{15} T^{10} U^5 \end{aligned}$$

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

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

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

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

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

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

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

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

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

$$13 \quad (2/5 A^2 B - 4/3 AB - 4) (3/2 A B^2$$

$$3/5 AB^{-1} - 2 B^{-1} - 6 AB^2 = \frac{3}{5} \frac{A}{B} - 2 \frac{1}{B} - 6 AB^2$$

$$R = \frac{3}{5} \frac{A}{B} - \frac{2}{B} - 6 AB^2$$

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

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

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

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

$$27x^9 + 36x^6y^2 + 12x^3y^4 + 18x^6y^2 + 24x^3y^4 + 8y^6$$

$$27x^9 + 54x^6y^2 + 36x^3y^4 + 8y^6$$

$$15 \quad (2/6 A^3 + 1/3 B^2) (2/6 A^3 + 1/3 B^2)$$

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

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

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