



Nombre del Alumno: miguel ángel peréz montejo

Parcial 3

Nombre de la Materia :algebra

Nombre del profesor: Juan José Ojeda Trujillo

Nombre de la Licenciatura: técnico en enfermería

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

$$\begin{array}{r}
 a^2 + 2a \\
 3a \overline{) 3a^3 + 5a^2 - 4} \\
 \underline{-3a^3} \\
 5a^2 \\
 \underline{-6a^2} \\
 -a^2 - 4
 \end{array}$$

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

$$\begin{array}{r}
 -\frac{4}{3}A + \frac{1}{2}AB^2 - \frac{5}{3}B^2 \\
 -\frac{1}{2}AB^2 \overline{) \frac{2}{3}A^2B^2 - \frac{1}{4}A^2B^4 + \frac{5}{6}AB^4 - \frac{2}{5}B^5} \\
 \underline{-\frac{1}{3}A^2B^2} \\
 -\frac{1}{4}A^2B^4 + \frac{5}{6}AB^4 - \frac{2}{5}B^5 \\
 \underline{+\frac{1}{4}A^2B^4} \\
 \frac{5}{6}AB^4 - \frac{2}{5}B^5 \\
 \underline{-\frac{5}{6}AB^4} \\
 -\frac{2}{5}B^5
 \end{array}$$

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

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

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

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

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

Handwritten polynomial division on grid paper:

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

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

Handwritten polynomial division on grid paper:

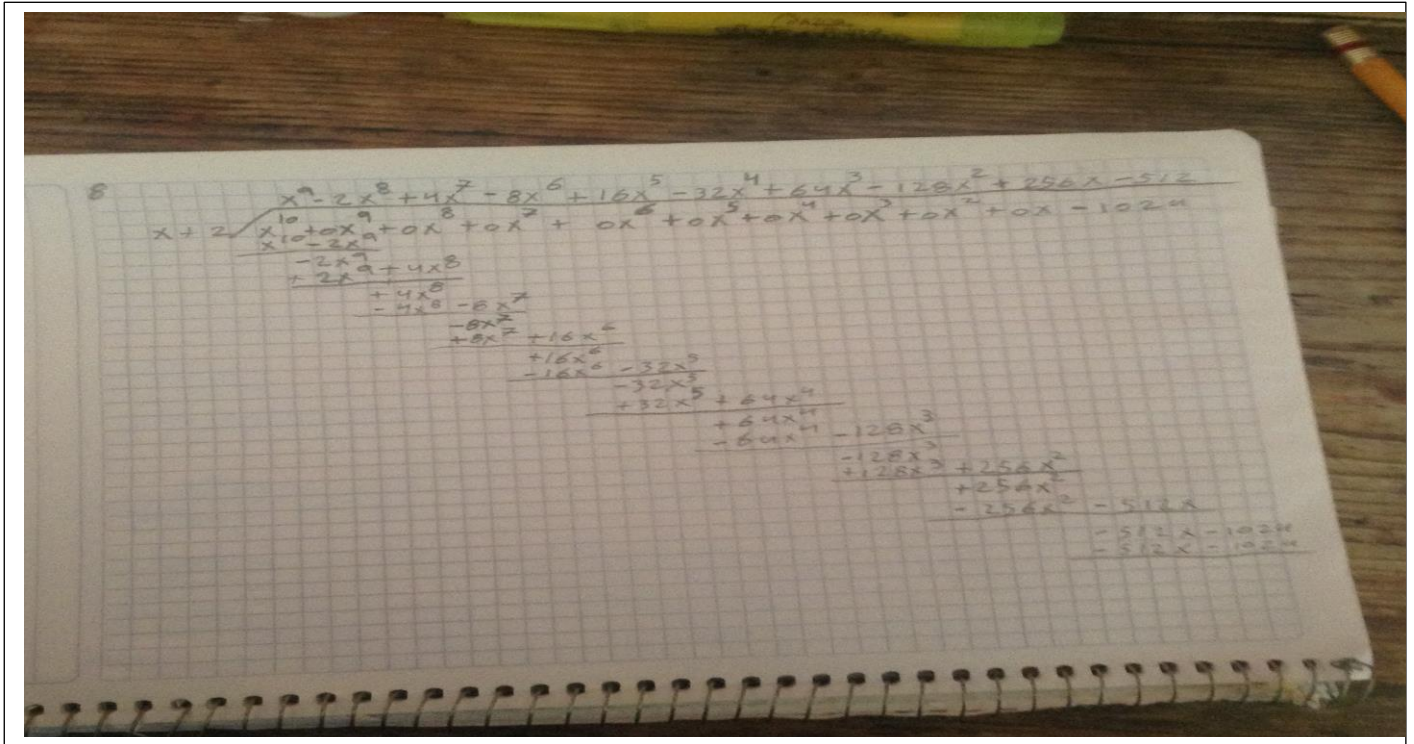
$$\begin{array}{r}
 x^4 + x^3 + 3x^2 \\
 x^2 - x + 3 \overline{) x^6 + 0x^5 + 5x^4 + 0x^3 + 3x^2 - 2x} \\
 \underline{x^6 + x^5 - 3x^4} \\
 +x^5 + 2x^4 + 0x^3 \\
 \underline{-x^5 + x^4 - 3x^3} \\
 +3x^4 - 3x^3 + 3x^2 \\
 \underline{-3x^4 + 3x^3 - 6x^2} \\
 -6x^2 - 2x
 \end{array}$$

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

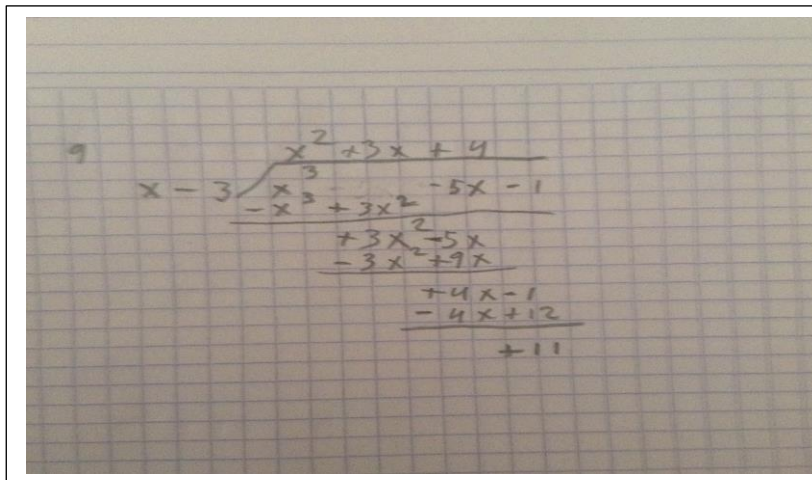
Handwritten polynomial division on grid paper:

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

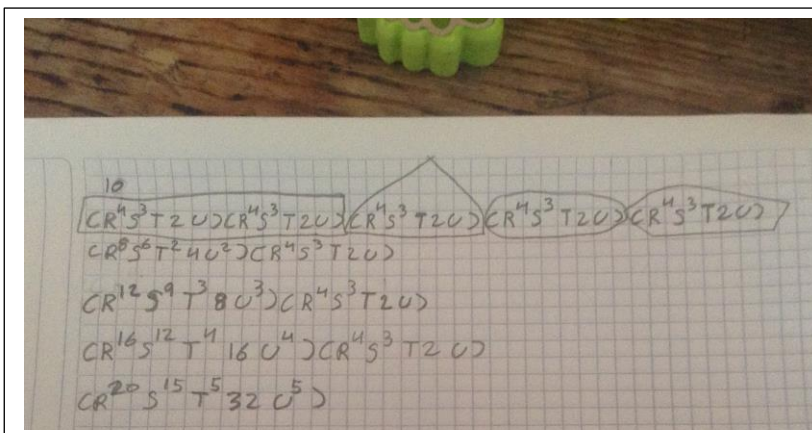
8.- $(x^{10} - 1024) : (x + 2)$



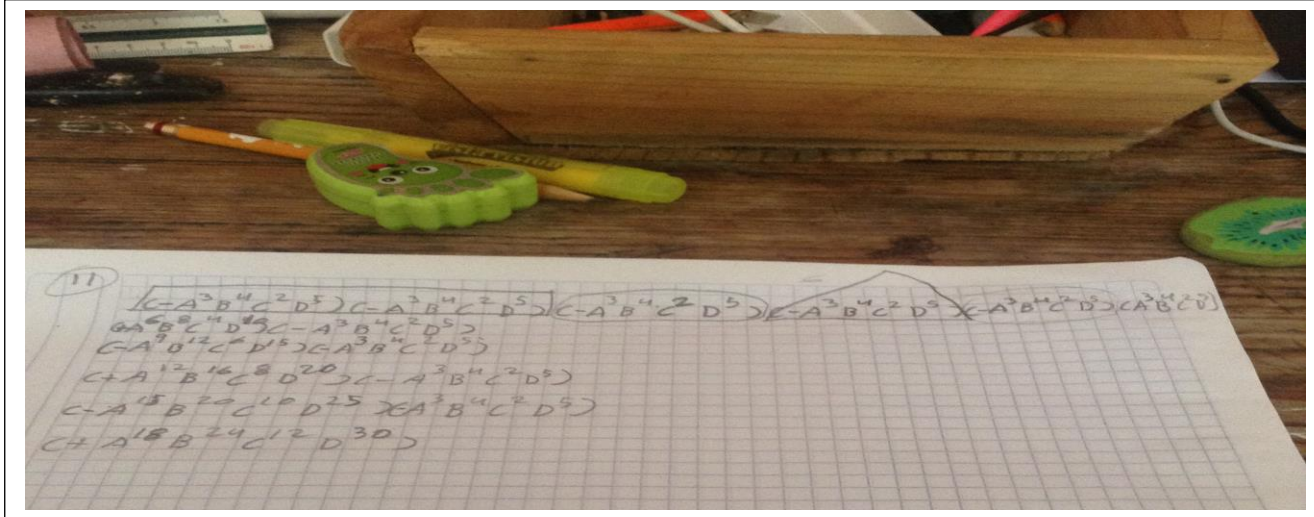
9.- $(x^3 - 5x - 1) : (x - 3)$



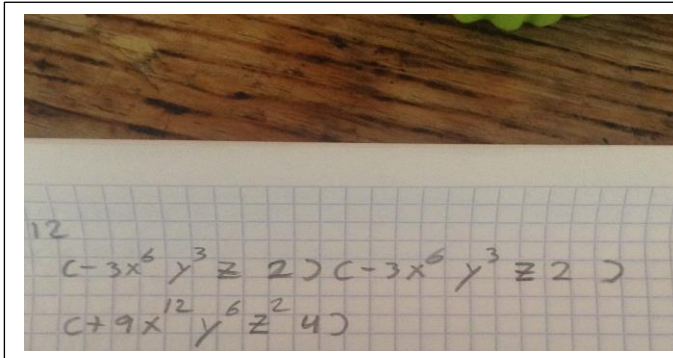
10.- $(R^4 S^3 T^2 U)^5$



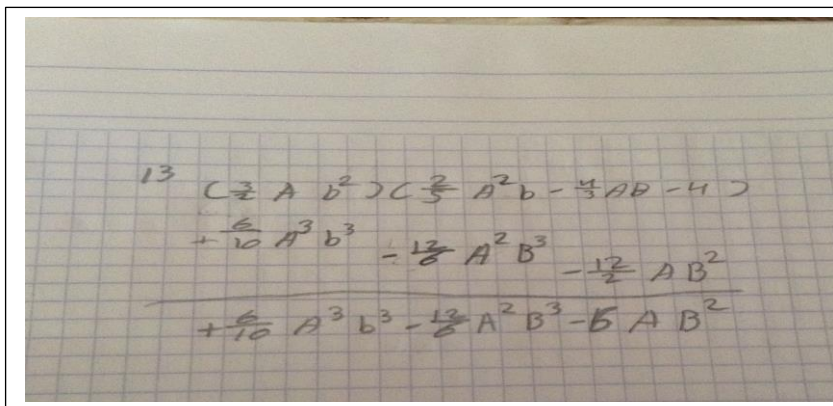
11.- (-A³B⁴C²D⁵)⁶



12.- (-3X⁶Y³Z²) (-3X⁶Y³Z²)



13.- (2/5 A²B - 4/3 AB - 4)(3/2 AB²)



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

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

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

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

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

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

$$81x^{12} + 108x^9y^2 + 36x^6y^4$$

$$+ 108x^9y^2 + 144x^6y^4 + 36x^3y^6$$

$$+ 30x^6y^4 + 48x^3y^6 + 16y^8$$

$$81x^{12} + 216x^9y^2 + 216x^6y^4 + 84x^3y^6 + 16y^8$$

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

(15)

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

$$\frac{4}{36}A^6 + \frac{2}{18}A^3B^2$$

$$+ \frac{2}{18}A^3B^2 + \frac{1}{9}B^4$$

$$\frac{4}{36} + \frac{4}{18}A^3B^2 + \frac{1}{9}B^4$$