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

$x^8+x^7-3x^6$

$-5x^6-5x^5+15x^4$

$-3x^4+$

7-$(2x^4-2x^3+3x^2+5x+10)(x+2)=2x^5+6x^4-5x^3+11x^2-10x+20$

$2x^5-4x^4$

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

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

$-5x^2+10x$

$-10x+20$

8-$(a^2+2b)^3=$

$(a^2+2b)(a^2+2b)(a^2+2b)$.

a^4+2a^2b

$+2a^2b+4b^2$

$(a^2+4ab+4b^2)(a^2+2b)$

17/12/2021

NOTA: Los numeros ala derecha de las variables son exponentes.

1- $(x^4-2x^3-11x^2+30x-20) \div (x^2+3x-2) = x^2+x-16+\frac{180x-52}{x^2+3x-2}$

$$
\begin{array}{r|l}
x^4-2x^3-11x^2+30x-20 & x^2+3x-2 \\
\hline
x^4+3x^3-2x^2 & x^2+8x \\
\hline
-13x^2+30x & \\
-3x^2+2x & \\
\hline
-16x^2+32x-20 & \\
+16x^2+48x-32 & \\
\hline
+80x-52 &
\end{array}
$$

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

$$
\begin{array}{r|l}
x^6+5x^4+3x^2-2x & x^2-x+3 \\
\hline
-x^6+x^5+3x^4 & x^4+x^3+3x^2 \\
\hline
x^5+2x^4+0x^3 & \\
-x^5+x^4-3x^3 & \\
\hline
3x^4-3x^3+3x^2 & \\
-3x^4+3x^3+0x^2 & \\
\hline
+12x-2x &
\end{array}
$$

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

$$
\begin{array}{r|l}
2x^4-2x^3+3x^2+5x+10 & x^2+2 \\
\hline
2x^4+0x^3+4x^2 & 2x^2-2x+3 \\
\hline
-2x^3-x^2+5x+10 & \\
-2x^3+0x^2-4x & \\
\hline
-x^2+9x+10 &
\end{array}
$$

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

$(x^{10}+0x^9+0x^8+0x^7+0x^6+0x^5+0x^4+0x^3+0x^2+0x+x^1-1024)$

$x+2$ | $x^{10}+0x^9+0x^8+0x^7+0x^6+0x^5+0x^4+0x^3+0x^2+0x-1024$

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

$-x^{10}-2x^9$

$-2x^9+0x^8$

$+2x^9+4x^8$

$+4x^8+0x^7$

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

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

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

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

$16x^5+32x^4$

$+32x^4+0x^3$

$+32x^4+64x^3$

$+64x^3+0x^2$

$+64x^3+128x^2$

$+128x^2+0x$

$+128x^2+256x$

$+256x+0x$

$256x+512$

$+512x-1024$

$+512x-1024$

0000

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

$\frac{3a^3}{3a} = 10^4$ $\quad \frac{1}{50} = \frac{30}{1} = \frac{1}{15} a^3$

$10^4 + \frac{1}{15}a^3 + \frac{1}{12}a$

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

$\frac{2}{3}a^2b^2$ $\quad = \frac{4}{3}a^3b^4$ $\quad \frac{-1}{4} = \frac{2}{4}a^3b^6$ $\quad \frac{5}{6} = \frac{10}{6}a^2b^6$

$\frac{1}{2}ab^2$ $\quad \frac{1}{2}$ $\quad \frac{1}{2}$

$\frac{2}{5} = \frac{2}{5}ab^6$ $\quad \frac{4}{3}a^3b^4 + \frac{2}{4}a^3b^6 + \frac{10}{6}a^2b^6 + \frac{2}{5}ab^6)$

$\frac{1}{2}$

7 - $(x^3 - 5x - 11) \div (x - 3)$

x^2

$x-3 \overline{)\, x^3 - 5x - 0 - 11}$

$x^3 + 3x^2$

$-2x^2 - 5x$

$+2x^2 + 5x$

-11

$x^2 - 2x - (1)$

$x - 3$