

1.-

$$4x^4 + 2x^3 - 3x^2 + 5x - 1$$

$$-4x^4$$

$$+6x^2$$

$$\hline 2x^3 + 3x^2 + 5x - 1$$

$$-2x^3$$

$$+3x$$

$$\hline 3x^2 + 8x - 1$$

$$-3x^2$$

$$+\frac{9}{2}$$

$$\hline 8x + \frac{7}{2}$$

$$\begin{array}{l} 2x^2 - 3 \\ \hline 2x^2 + x + \frac{3}{2} \end{array}$$

2.-

$$8x^4 + 3x^3 + 0x^2 + 2x - 2$$

$$-8x^4 - 2x^3 + 6x^2$$

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

$$-x^3 - \frac{1}{4}x^2 + \frac{3}{4}x$$

$$\hline$$

$$\frac{23}{4}x^2 + \frac{11}{4}x - 2$$

$$- \frac{23}{4}x^2 - \frac{23}{16} + \frac{69}{16}$$

$$\hline$$

$$\frac{21}{16}x + \frac{37}{16}$$

$$\begin{array}{l} 4x^2 + x - 3 \\ \hline 2x^2 + \frac{1}{4}x + \frac{23}{16} \end{array}$$

3.- $2x^5 + 0x^4 - x^3 + 0x^2 + 3x - 9 \quad \left| \begin{array}{l} 2x^2 - x + 2 \\ x^3 + \frac{1}{2}x^2 - \frac{5}{4}x - \frac{9}{8} \end{array} \right.$

$$\begin{array}{r}
 2x^5 + 0x^4 - x^3 + 0x^2 + 3x - 9 \\
 -2x^5 + x^4 - 2x^3 \\
 \hline
 x^4 - 3x^3 + 0x^2 + 3x - 9 \\
 -x^4 + \frac{1}{2}x^3 - x^2 \\
 \hline
 -\frac{5}{2}x^3 - x^2 + 3x - 9 \\
 +\frac{5}{2}x^3 - \frac{5}{4}x^2 + \frac{5}{2}x \\
 \hline
 -\frac{9}{4}x^2 + \frac{11}{2}x - 9 \\
 +\frac{9}{4}x^2 - \frac{9}{8}x + \frac{9}{4} \\
 \hline
 \frac{35}{8}x - \frac{27}{4}
 \end{array}$$

4.- $6x^3 - 3x^2 + 2x - 5 \quad \left| \begin{array}{l} 3x - 2 \\ 2x^2 + \frac{1}{3}x + \frac{8}{9} \end{array} \right.$

$$\begin{array}{r}
 6x^3 - 3x^2 + 2x - 5 \\
 -6x^3 + 4x^2 \\
 \hline
 x^2 + 2x - 5 \\
 -x^2 + \frac{2}{3}x \\
 \hline
 \frac{8}{3}x - 5 \\
 -\frac{8}{3}x + \frac{16}{9} \\
 \hline
 -\frac{29}{9}
 \end{array}$$

5:-

$$\begin{array}{r}
 4x^4 - x^3 + 0x^2 + x + 5 \quad \left| \begin{array}{l} 2x^2 - x + 3 \\ \hline 2x^2 + \frac{1}{2}x - \frac{11}{4} \end{array} \right. \\
 -4x^4 + 2x^3 - 6x^2 \\
 \hline
 x^3 - 6x^2 + x + 5 \\
 -x^3 + \frac{1}{2}x^2 - \frac{3}{2}x \\
 \hline
 -\frac{11}{2}x^2 - \frac{1}{2}x + 5 \\
 +\frac{11}{2}x^2 - \frac{11}{4}x + \frac{33}{4} \\
 \hline
 -\frac{13}{4}x + \frac{53}{4}
 \end{array}$$

6:-

$$\begin{array}{r}
 6x^4 + 3x^3 - 5x^2 + x - 8 \quad \left| \begin{array}{l} 3x^2 - 5x + 2 \\ \hline 2x^2 + \frac{13}{3}x + \frac{38}{9} \end{array} \right. \\
 -6x^4 + 10x^3 - 4x^2 \\
 \hline
 13x^3 - 9x^2 + x - 8 \\
 -13x^3 + \frac{65}{3}x^2 - \frac{26}{3}x \\
 \hline
 \frac{38}{3}x^2 - \frac{23}{3}x - 8 \\
 -\frac{38}{3}x^2 + \frac{190}{9}x - \frac{76}{9} \\
 \hline
 \frac{121}{9}x - \frac{148}{9}
 \end{array}$$

7.

$$\begin{array}{r}
 8x^4 + 0x^3 - 3x^2 + 7x - 5 \quad | \quad 4x^2 - 3x + 2 \\
 \underline{-8x^4 + 6x^3 - 4x^2} \quad 2x^2 + \frac{3}{2}x - \frac{5}{8} \\
 6x^3 - 7x^2 + 7x - 5 \\
 \underline{-6x^3 + \frac{9}{2}x^2 - 3x} \\
 -\frac{5}{2}x^2 + 4x - 5 \\
 \underline{+\frac{5}{2}x^2 - \frac{15}{8}x + \frac{5}{4}} \\
 \frac{17}{8}x - \frac{15}{4}
 \end{array}$$

8.

$$\begin{array}{r}
 6x^4 - x^3 + 2x^2 - x - 1 \quad | \quad 3x^2 + 2 \\
 \underline{-6x^4} \quad 2x^2 - \frac{1}{3}x - \frac{2}{3} \\
 -x^3 - 2x^2 - x - 1 \\
 \underline{+x^3} \quad +\frac{2}{3}x \\
 -2x^2 - \frac{1}{3}x - 1 \\
 \underline{+2x^2} \phantom{- \frac{1}{3}x - 1} \quad +\frac{4}{3} \\
 -\frac{1}{3}x + \frac{1}{3}
 \end{array}$$