$$
\begin{array}{rrrrcrcrrr}
(x^3 & -3x^2 & -10x & +24) & : & (x-2) & = & x^2 & -x & -12 \\
-(x^3 & -2x^2) & & & & & & & & \\
\hline
 & (-x^2 & -10x) & & & & & & & \\
 & -(-x^2 & +2x) & & & & & & & \\
\hline
 & & (-12x & +24) & & & & & & \\
 & & -(-12x & +24) & & & & & & \\
\hline
 & & & 0 & & & & & &
\end{array}
$$

$$
\begin{array}{rrrrcrcrrr}
(x^3 & -2x^2 & -8x & +21) & : & (x+3) & = & x^2 & -5x & +7 \\
-(x^3 & +3x^2) & & & & & & & & \\
\hline
 & (-5x^2 & -8x) & & & & & & & \\
 & -(-5x^2 & -15x) & & & & & & & \\
\hline
 & & (7x & +21) & & & & & & \\
 & & -(7x & +21) & & & & & & \\
\hline
 & & & 0 & & & & & &
\end{array}
$$

$$
\begin{array}{rrrrcrcrrr}
(4x^3 & -5x^2 & -4x & -4) & : & (x-2) & = & 4x^2 & +3x & +2 \\
\cline{1-4}
-(4x^3 & -8x^2) & & & & & & & & \\
\cline{1-2}
 & (3x^2 & -4x) & & & & & & & \\
 & -(3x^2 & -6x) & & & & & & & \\
\cline{2-3}
 & & (2x & -4) & & & & & & \\
 & & -(2x & -4) & & & & & & \\
\cline{3-4}
 & & & 0 & & & & & &
\end{array}
$$

$$\left(\frac{1}{4}x^3 + x^2 - \frac{1}{4}x - 1\right) : (x+1) = \frac{1}{4}x^2 + \frac{3}{4}x - 1$$

$$\begin{array}{r}
-\left(\frac{1}{4}x^3 + \frac{1}{4}x^2\right) \\
\hline
\left(\frac{3}{4}x^2 - \frac{1}{4}x\right) \\
-\left(\frac{3}{4}x^2 + \frac{3}{4}x\right) \\
\hline
(-x - 1) \\
-(-x - 1) \\
\hline
0
\end{array}$$

$$
\begin{array}{rrrrcrcrrr}
(5x^3 & -17x^2 & +4x & +6) & : & (x-3) & = & 5x^2 & -2x & -2 \\
-(5x^3 & -15x^2) & & & & & & & & \\
\hline
 & (-2x^2 & +4x) & & & & & & & \\
 & -(-2x^2 & +6x) & & & & & & & \\
\hline
 & & (-2x & +6) & & & & & & \\
 & & -(-2x & +6) & & & & & & \\
\hline
 & & & 0 & & & & & &
\end{array}
$$

$$
\begin{array}{rrrrcrcrrr}
(-4x^3 & -7x^2 & +3x & +2) & : & (x+2) & = & -4x^2 & +x & +1 \\
-(-4x^3 & -8x^2) & & & & & & & & \\
\hline
 & (x^2 & +3x) & & & & & & & \\
 & -(x^2 & +2x) & & & & & & & \\
\hline
 & & (x & +2) & & & & & & \\
 & & -(x & +2) & & & & & & \\
\hline
 & & & 0 & & & & & &
\end{array}
$$

$$
\begin{array}{rrrrcrcrrr}
(-2x^3 & +5x^2 & +16x & -16) & : & (x-4) & = & -2x^2 & -3x & +4 \\
-(-2x^3 & +8x^2) & & & & & & & & \\
\hline
 & (-3x^2 & +16x) & & & & & & & \\
 & -(-3x^2 & +12x) & & & & & & & \\
\hline
 & & (4x & -16) & & & & & & \\
 & & -(4x & -16) & & & & & & \\
\hline
 & & & 0 & & & & & &
\end{array}
$$

$$\left(\frac{2}{3}x^3 - \frac{1}{3}x^2 - \frac{2}{3}x + \frac{1}{3}\right) : (x+1) = \frac{2}{3}x^2 - x + \frac{1}{3}$$

$$\begin{array}{r}
-\left(\frac{2}{3}x^3 + \frac{2}{3}x^2\right) \\
\hline
\left(-x^2 - \frac{2}{3}x\right) \\
-\left(-x^2 - x\right) \\
\hline
\left(\frac{1}{3}x + \frac{1}{3}\right) \\
-\left(\frac{1}{3}x + \frac{1}{3}\right) \\
\hline
0
\end{array}$$

$$\left(\frac{2}{3}x^3 - \frac{1}{3}x^2 - \frac{2}{3}x + \frac{1}{3}\right) : (x+1) = \frac{2}{3}x^2 - x + \frac{1}{3}$$

$$\begin{array}{r}
-\left(\frac{2}{3}x^3 + \frac{2}{3}x^2\right) \\
\hline
\left(-x^2 - \frac{2}{3}x\right) \\
-\left(-x^2 - x\right) \\
\hline
\left(\frac{1}{3}x + \frac{1}{3}\right) \\
-\left(\frac{1}{3}x + \frac{1}{3}\right) \\
\hline
0
\end{array}$$

$$(x^3 - x) : (x - 1) = (x^3 + 0x^2 - x) : (x - 1)$$

$$\begin{array}{rrrcrcl}
(x^3 & +0x^2 & -x & : & (x-1) & = & x^2 + x \\
-(x^3 & -x^2) & & & & & \\
\hline
 & (x^2 & -x) & & & & \\
 & -(x^2 & -x) & & & & \\
\hline
 & & 0 & & & &
\end{array}$$

$$
\begin{array}{rrrrcrcrrr}
(x^3 & -6x^2 & +12x & -8) & : & (x-2) & = & x^2 & -4x & +4 \\
-(x^3 & -2x^2) & & & & & & & & \\
\hline
 & (-4x^2 & +12x) & & & & & & & \\
 & -(-4x^2 & +8x) & & & & & & & \\
\hline
 & & (4x & -8) & & & & & & \\
 & & -(4x & -8) & & & & & & \\
\hline
 & & & 0 & & & & & &
\end{array}
$$

$(4x^3 - 3x + 1) : (x + 1)$

$$
\begin{array}{rrrrcrcrrr}
(4x^3 & +0x^2 & -3x & +1) & : & (x+1) & = & 4x^2 & -4x & +1 \\
-(4x^3 & +4x^2) & & & & & & & & \\
\hline
 & (-4x^2 & -3x) & & & & & & & \\
 & -(-4x^2 & -4x) & & & & & & & \\
\hline
 & & (x & +1) & & & & & & \\
 & & -(x & +1) & & & & & & \\
\hline
 & & & 0 & & & & & &
\end{array}
$$

$(x^3 + 6x^2 - 32) : (x - 2)$

$$
\begin{array}{rrrrcrcrrr}
(x^3 & +6x^2 & +0x & -32) & : & (x-2) & = & x^2 & +8x & +16 \\
-(x^3 & -2x^2) & & & & & & & & \\
\hline
 & (8x^2 & +0x) & & & & & & & \\
 & -(8x^2 & -16x) & & & & & & & \\
\hline
 & & (16x & -32) & & & & & & \\
 & & -(16x & -32) & & & & & & \\
\hline
 & & & 0 & & & & & &
\end{array}
$$