Just the working itself (works both inside and outside math mode):

$$
\begin{array}{r|l}
 & x^3 \quad +x^2 \quad -2x+\frac{13}{2} \\
\cline{2-2}
x+2 & x^4+3x^3 \quad +\frac{5}{2}x \quad +6 \\
 & \underline{-(x^4+2x^3 \qquad\qquad\qquad)} \\
 & x^3 \quad +\frac{5}{2}x \quad +6 \\
 & \underline{-(x^3 \quad +2x^2 \qquad\quad)} \\
 & -2x^2 \quad +\frac{5}{2}x \quad +6 \\
 & \underline{-(-2x^2 \quad -4x \qquad)} \\
 & \frac{13}{2}x \quad +6 \\
 & \underline{-(\frac{13}{2}x+13)} \\
 & -7
\end{array}
$$

Obtaining parts of the polynomial division as math:

$$x^4+3x^3+\frac{5}{2}x+6=\left(x^3+x^2-2x+\frac{13}{2}\right)(x+2)+(-7)$$

Obtaining quotient and remainder as an array of polynomial coefficients:

Quotient: `("1/1", "1/1", "-2/1", "13/2")`

Remainder: `("-7/1",)`

Note: for doing fraction math using the above fractions as strings, use `@preview/fractus`.