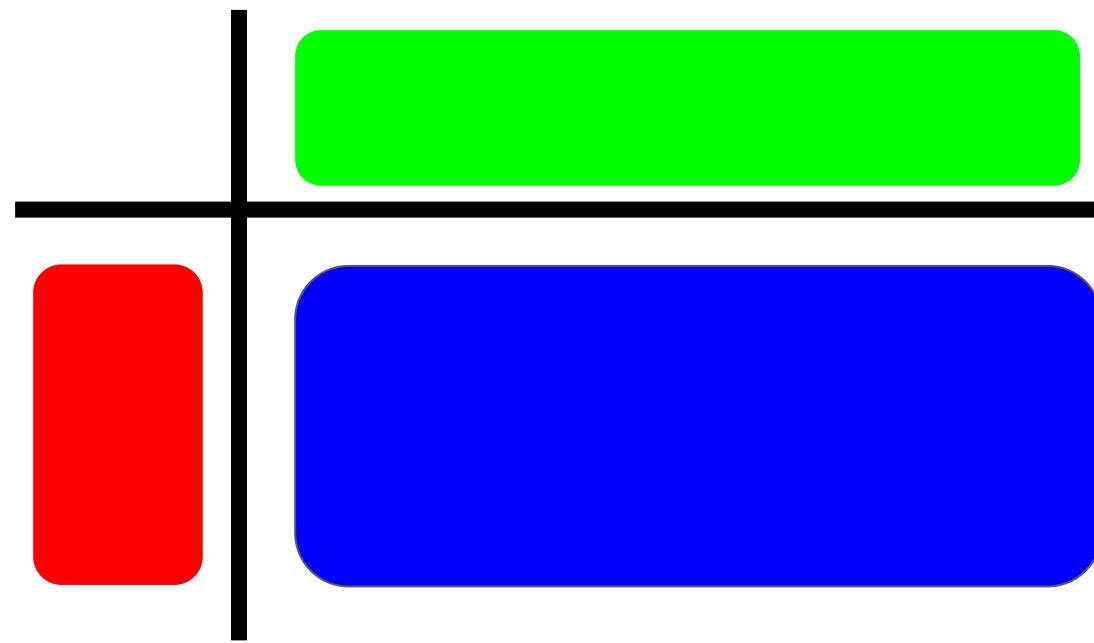


$$\frac{x^3 + 7x^2 + 7x - 6}{x+2} =$$

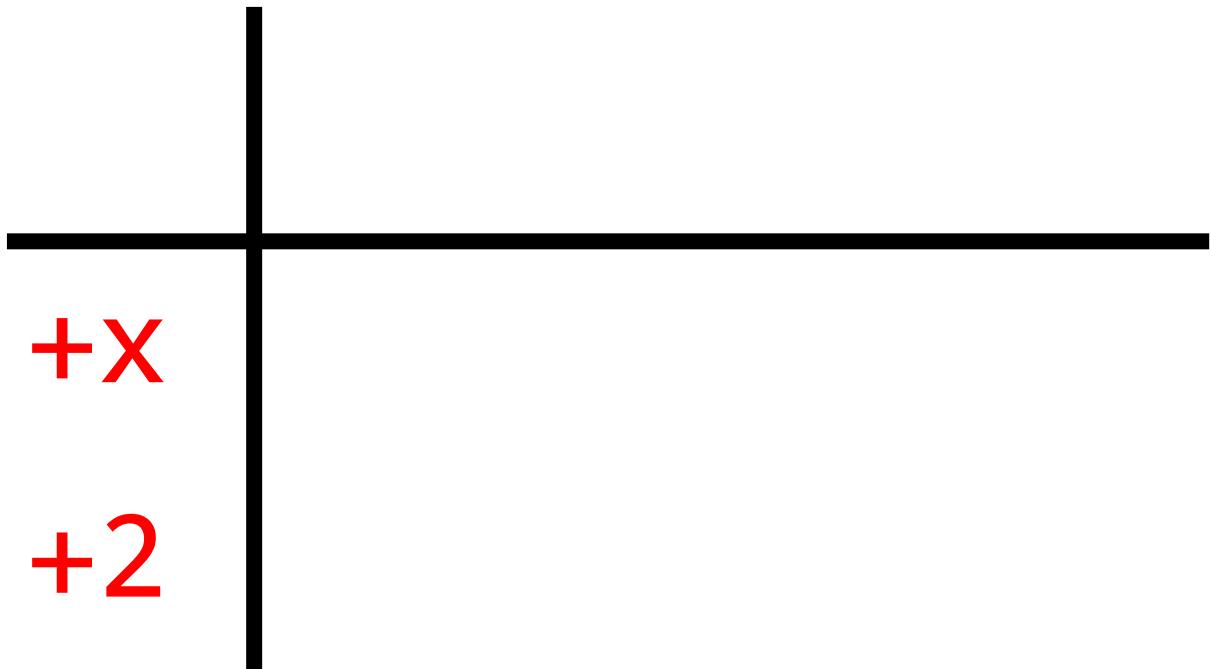
Polynomial
Division
Example

$$\frac{x^3 + 7x^2 + 7x - 6}{x+2} = \underline{\hspace{2cm}}$$

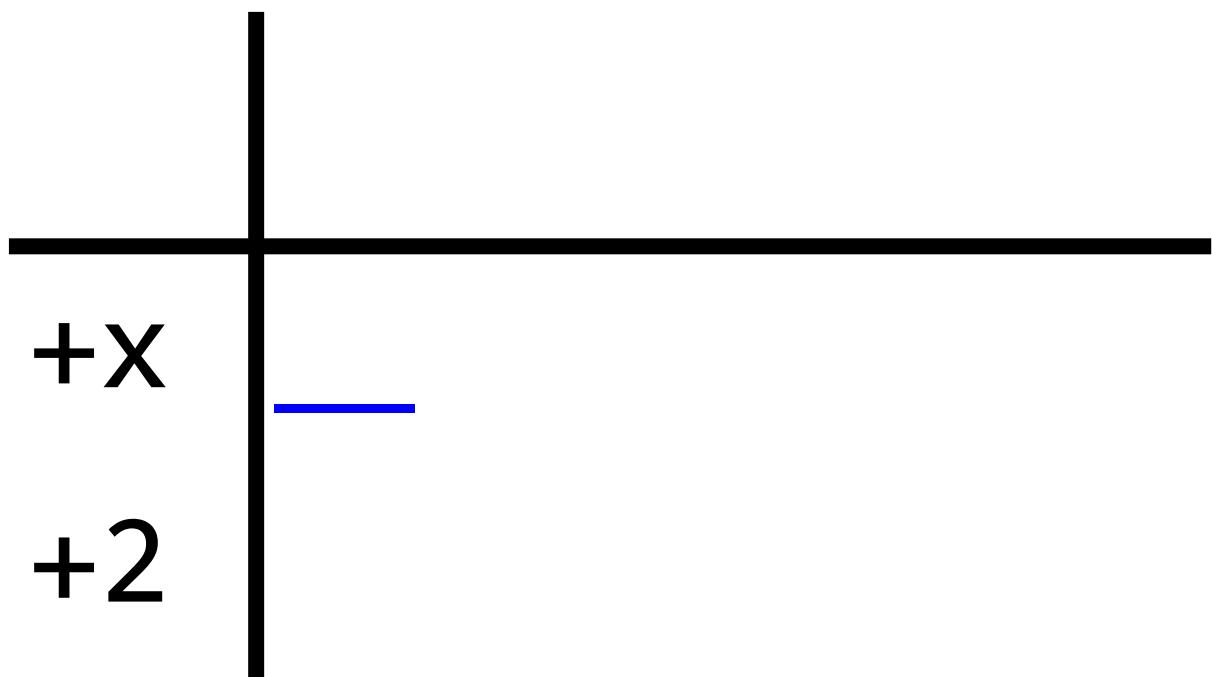
$$(x+2) \cdot \underline{\hspace{2cm}} = (x^3 + 7x^2 + 7x - 6)$$



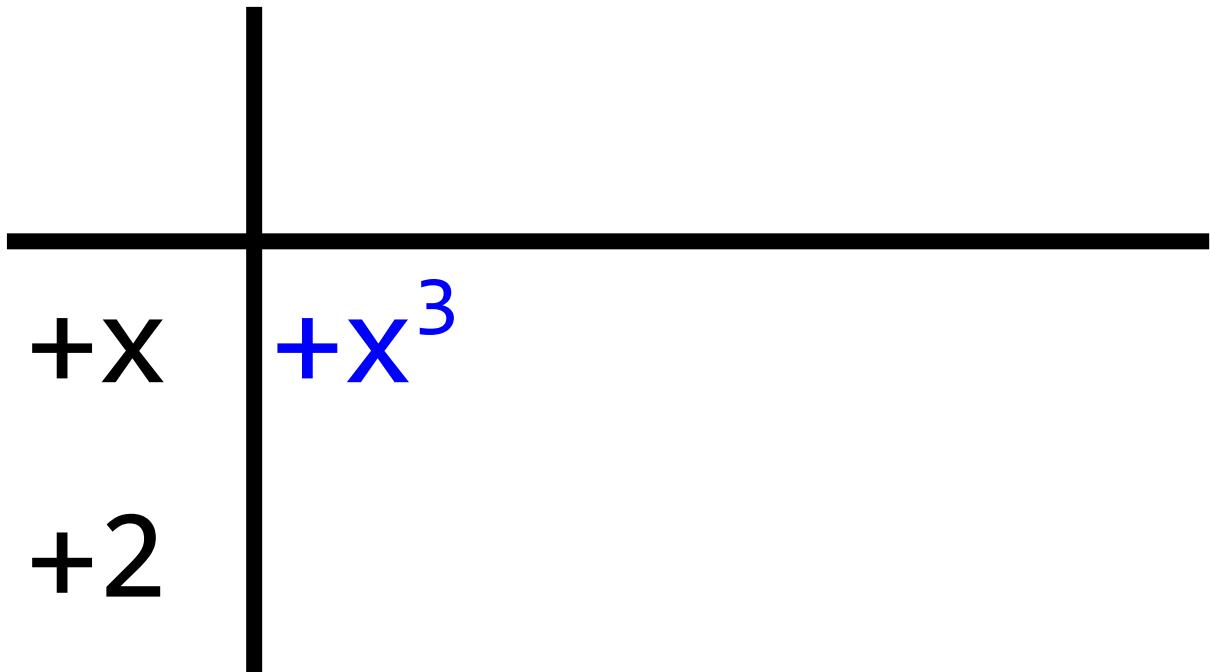
$$(x+2)(\quad) = (x^3 + 7x^2 + 7x - 6)$$



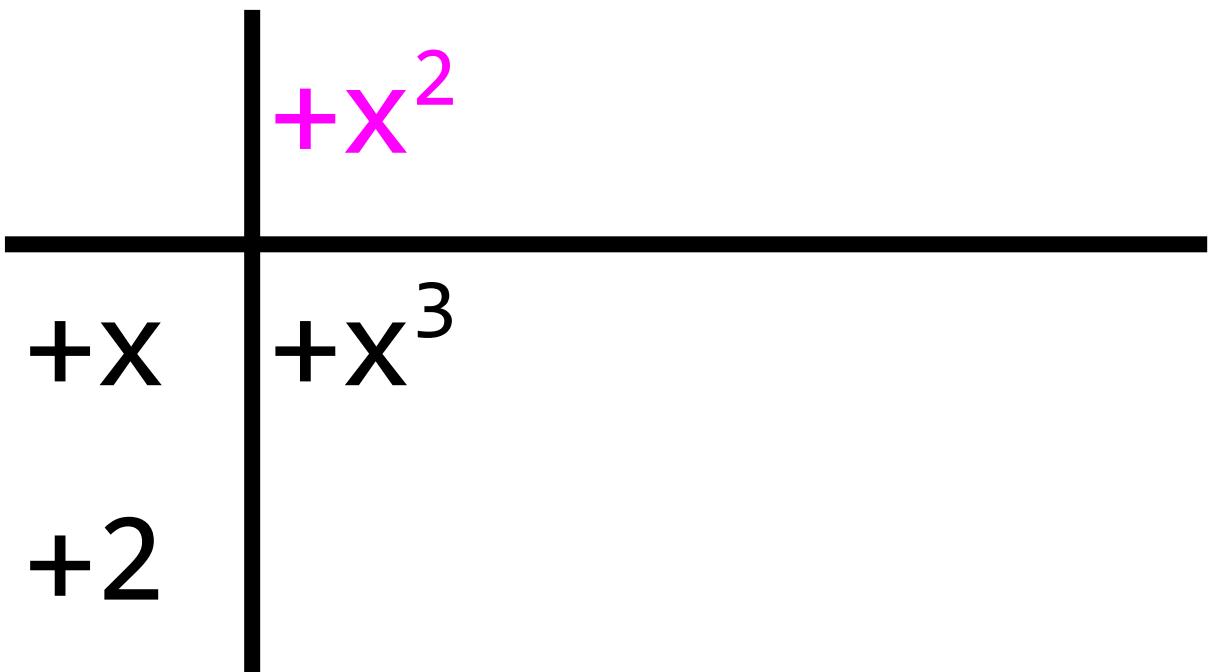
$$(x+2)(\quad) = (x^3 + 7x^2 + 7x - 6)$$



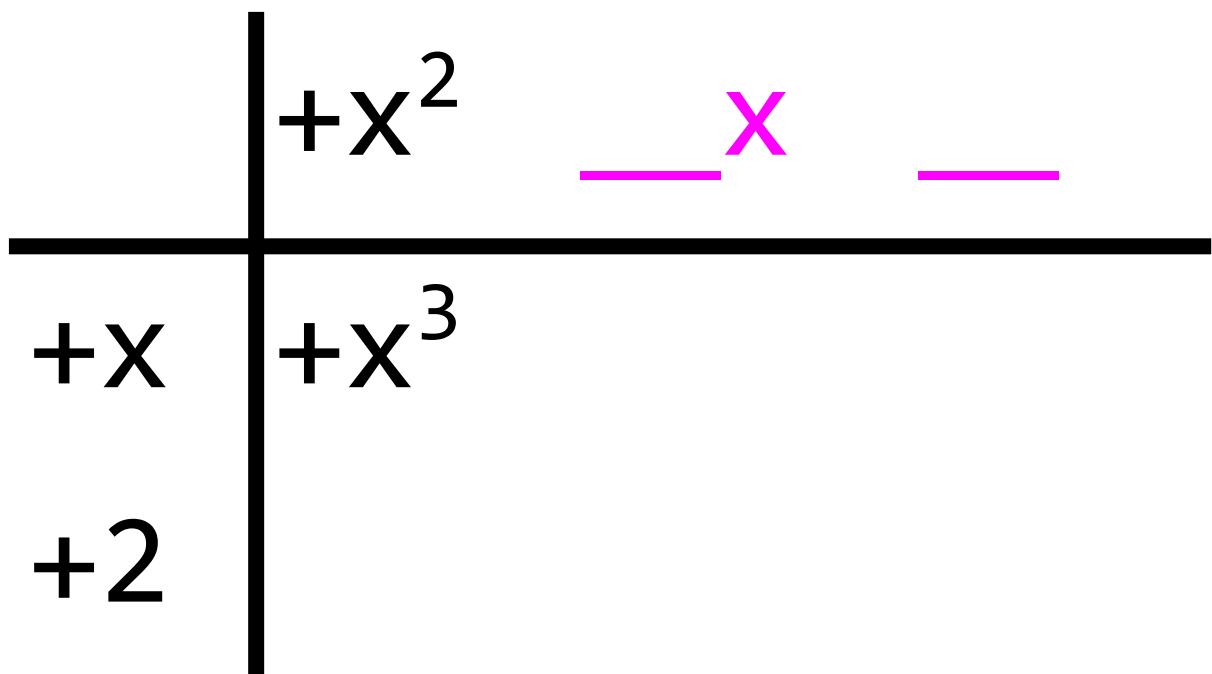
$$(x+2)(\quad) = (x^3 + 7x^2 + 7x - 6)$$



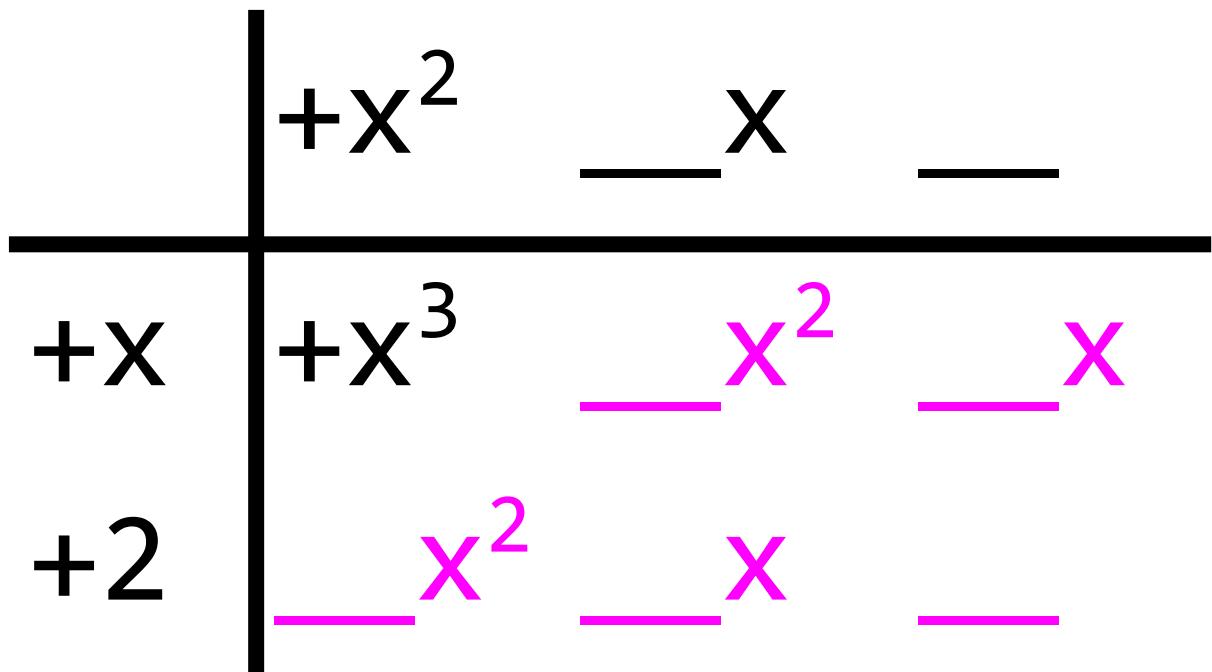
$$(x+2)(\quad) = (x^3 + 7x^2 + 7x - 6)$$



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$$(x+2)(\quad) = (x^3 + 7x^2 + 7x - 6)$$

$$\begin{array}{r} +x^2 \quad \quad \quad -x \quad \quad \quad \\ \hline +x \quad +x^3 \quad -x^2 \quad -x \\ +2 \quad \textcolor{magenta}{+2x^2} \quad -x \quad \quad \quad \end{array}$$

$$(x+2)(\quad) = (x^3 + 7x^2 + 7x - 6)$$

$$\begin{array}{r} +x^2 \quad \quad \quad x \\ \hline +x \quad +x^3 \quad \underline{-x^2} \quad \quad x \\ +2 \quad \quad \quad \underline{+2x^2} \quad \quad x \end{array}$$

$$(x+2)(\quad) = (x^3 + 7x^2 + 7x - 6)$$

$$\begin{array}{r} & +x^2 & & x \\ \hline & +x & +x^3 & +5x^2 & x \\ & +2 & +2x^2 & x & \end{array}$$

A vertical column of numbers and variables is aligned with the terms of the polynomial. The top row contains $+x^2$, x , and two blank lines. The middle row contains $+x$, $+x^3$, $+5x^2$, x , and two blank lines. The bottom row contains $+2$, $+2x^2$, x , and two blank lines. The first column has a vertical line through it.

$$(x+2)(\quad) = (x^3 + 7x^2 + 7x - 6)$$

$$\begin{array}{r} & +x^2 & +5x & \\ \hline +x & +x^3 & +5x^2 & -x \\ +2 & +2x^2 & -x & \end{array}$$

$$(x+2)(\quad) = (x^3 + 7x^2 + 7x - 6)$$

$$\begin{array}{r} & +x^2 & +5x & \underline{\quad} \\ \hline +x & +x^3 & +5x^2 & \underline{-x} \\ +2 & +2x^2 & \textcolor{magenta}{+10x} & \underline{\quad} \end{array}$$

$$(x+2)(\quad) = (x^3 + 7x^2 + \textcolor{blue}{7}x - 6)$$

$$\begin{array}{r} & +x^2 & +5x & \\ \hline +x & +x^3 & +5x^2 & \underline{-x} \\ +2 & +2x^2 & \textcolor{blue}{+10x} & \underline{} \end{array}$$

$$(x+2)(\quad) = (x^3 + 7x^2 + \textcolor{blue}{7}x - 6)$$

$$\begin{array}{r} & +x^2 & +5x & \\ \hline +x & +x^3 & +5x^2 & -3x \\ +2 & +2x^2 & \textcolor{blue}{+10x} & \end{array}$$

$$(x+2)(\quad) = (x^3 + 7x^2 + 7x - 6)$$

$$\begin{array}{r} & +x^2 & +5x & -3 \\ \hline +x & +x^3 & +5x^2 & -3x \\ +2 & +2x^2 & +10x & \underline{\quad} \end{array}$$

$$(x+2)(\quad) = (x^3 + 7x^2 + 7x - 6)$$

$$\begin{array}{r} & +x^2 & +5x & -3 \\ \hline +x & +x^3 & +5x^2 & -3x \\ +2 & +2x^2 & +10x & \textcolor{magenta}{-6} \end{array}$$

$$(x+2)(x^2+5x-3) = (x^3+7x^2+7x-6)$$

$$\begin{array}{r} +x^2 \quad +5x \quad -3 \\ \hline +x \quad +x^3 \quad +5x^2 \quad -3x \\ +2 \quad +2x^2 \quad +10x \quad -6 \end{array}$$

$$(x+2)(x^2+5x-3) = (x^3+7x^2+7x-6)$$

$$\begin{array}{r} & +x^2 & +5x & -3 \\ \hline +x & +x^3 & +5x^2 & -3x \\ +2 & +2x^2 & +10x & -6 \end{array}$$

$$\frac{x^3+7x^2+7x-6}{x+2} = \boxed{x^2+5x-3}$$