

## Long Division

$$\begin{array}{r} 469\frac{1}{7} \\ 7 \overline{) 3284} \\ \underline{-28} \phantom{0} \downarrow \\ 48 \phantom{0} \downarrow \\ \underline{-42} \phantom{0} \downarrow \\ 64 \\ \underline{-63} \\ \hline 1 \end{array}$$

$$\begin{array}{r} 4711\frac{10}{12} \\ 12 \overline{) 56542} \\ \underline{-48} \phantom{0} \downarrow \\ 85 \phantom{0} \downarrow \\ \underline{-84} \phantom{0} \downarrow \\ 14 \phantom{0} \downarrow \\ \underline{-12} \phantom{0} \downarrow \\ 22 \\ \underline{-12} \\ \hline 10 \end{array}$$

$$\text{Ex) } (x^2 + 4x - 8) \div (x + 2)$$

• Stand Form

• All terms are there

$$\begin{array}{r} x + 2 - \frac{12}{x+2} \\ x+2 \overline{) x^2 + 4x - 8} \\ \underline{-(x^2 + 2x)} \phantom{0} \downarrow \\ 2x - 8 \\ \underline{-(2x + 4)} \\ \hline -12 \end{array}$$

$$\begin{array}{r} 3x + 6 + \frac{40}{x-6} \\ x-6 \overline{) 3x^2 - 12x + 4} \\ \underline{-(3x^2 - 18x)} \phantom{0} \downarrow \\ 6x + 4 \\ \underline{-(6x - 36)} \\ \hline 40 \end{array}$$

$$\text{Ex) } (4x^2 + 3x^3 + 10) \div (x-2)$$

$$\begin{array}{r} 3x^2 + 10x + 20 + \frac{50}{x-2} \\ x-2 \overline{) 3x^3 + 4x^2 + 0x + 10} \\ \underline{-(3x^3 - 6x^2)} \phantom{0x + 10} \phantom{+} \phantom{+} \phantom{+} \\ \phantom{3x^3} + 10x^2 + 0x + 10 \phantom{+} \phantom{+} \phantom{+} \phantom{+} \\ \phantom{3x^3} \underline{-(10x^2 - 20x)} \phantom{+ 10} \phantom{+} \phantom{+} \phantom{+} \\ \phantom{3x^3} \phantom{10x^2} + 20x + 10 \phantom{+} \phantom{+} \phantom{+} \phantom{+} \\ \phantom{3x^3} \phantom{10x^2} \underline{-(20x - 40)} \phantom{+} \phantom{+} \phantom{+} \phantom{+} \\ \phantom{3x^3} \phantom{10x^2} \phantom{20x} + 50 \phantom{+} \phantom{+} \phantom{+} \phantom{+} \end{array}$$

$$\begin{array}{r} 10x^2 + 0x \\ \underline{-(10x^2 - 20x)} \end{array}$$

$$\begin{array}{r} 20x + 10 \\ \underline{-(20x - 40)} \\ 50 \end{array}$$

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