

ex. 2  $(z^2 + 2z - 24) \div (z - 4).$

$$\begin{array}{r}
 \textcircled{z+6} \\
 z-4 \overline{) z^2 + 2z - 24} \\
 \underline{(-) z^2 - 4z} \phantom{-24} \\
 6z - 24 \\
 \underline{(-) 6z - 24} \\
 0
 \end{array}
 \qquad
 \begin{array}{l}
 \frac{z^2}{z} = z \\
 \frac{6z}{z} = 6
 \end{array}$$

2A.  $(x^2 + 7x - 30) \div (x - 3)$

$$\begin{array}{r}
 \textcircled{x+10} \\
 x-3 \overline{) x^2 + 7x - 30} \\
 \underline{(-) x^2 - 3x} \phantom{-30} \\
 10x - 30 \\
 \underline{(-) 10x - 30} \\
 0
 \end{array}
 \qquad
 \begin{array}{l}
 \frac{x^2}{x} = x \\
 \frac{10x}{x} = 10
 \end{array}$$

ex 3

$$\begin{array}{r}
 \textcircled{-t-8+\frac{31}{-t+5}} \\
 -t+5 \overline{) t^2 + 3t - 9} \\
 \underline{(-) t^2 - 5t} \phantom{-9} \\
 8t - 9 \\
 \underline{(-) 8t - 40} \\
 31
 \end{array}
 \qquad
 \begin{array}{l}
 \frac{t^2}{-t} = -t \\
 \frac{8t}{-t} = -8
 \end{array}$$

③

$$-r+1 \overline{) \begin{array}{r} -r-6+\frac{13}{-r+1} \\ r^2+5r+7 \\ (-) \cancel{r^2}-r \\ \hline 6r+7 \\ (-) \cancel{6r}-6 \\ \hline 13 \end{array}}$$

$$\frac{r^2}{-r} = -r$$

$$\frac{6r}{-r} = -6$$

Ex. 4  $(5x^3 - 13x^2 + 10x - 8) \div (x - 2).$

$$x-2 \overline{) \begin{array}{r} 5x^3-13x^2+10x-8 \\ \cancel{5x^3}-10x^2 \\ \hline -3x^2+10x \\ (-) \cancel{-3x^2}+6x \\ \hline 4x-8 \\ (-) \cancel{4x}-8 \\ \hline 0 \end{array}}$$

$$\frac{5x^3}{x} = 5x^2$$

$$\frac{-3x^2}{x} = -3x$$

$$\frac{4x}{x} = 4$$

Ex. 5  $(8x^4 - 4x^2 + x + 4) \div (2x + 1).$

$$2x+1 \overline{) \begin{array}{r} 8x^4+0x^3-4x^2+x+4 \\ \cancel{8x^4}+4x^3 \\ \hline -4x^3-4x^2 \\ (-) \cancel{-4x^3}-2x^2 \\ \hline -2x^2+x \\ (-) \cancel{-2x^2}-x \\ \hline 2x+4 \\ (-) \cancel{2x}+1 \\ \hline 3 \end{array}}$$

$$\frac{8x^4}{2x} = 4x^3$$

$$\frac{-4x^3}{2x} = -2x^2$$

$$\frac{-2x^2}{2x} = -x$$

$$\frac{2x}{2x} = 1$$

$$(8y^5 - 2y^4 - 16y^2 + 4) \div (4y - 1)$$