

$$(ex1) \Rightarrow (3x + 2) \cdot (x + 4)$$

$$3x \cdot x + 3x \cdot 4 + 2x + 8$$

$$3x^2 + 12x + 2x + 8$$

$$3x^2 + 14x + 8$$

$$(ex2) \quad 3x^2 \cdot 5x^4 = 15x^6$$

$$a^2 \cdot a^3 = a^{2+3} = a^5$$

$$\frac{a^4}{a^3} = a^{4-3} = a = a^1$$

$$(a^2)^3 = a^{2 \cdot 3} = a^6$$

(ex3)

$$(2x - 1)(x + 3)$$

$$2x \cdot x + 2x \cdot 3$$

$$2x^2 + 6x - 1x - 3$$

$$= 2x^2 + 5x - 3$$

ex ④ $(\boxed{x-3})(2x-5)$

$$\frac{+}{+} = +$$

$$+ \times + = +$$

$$- \times - = +$$

$$\frac{-}{-} = +$$

$$- \times + = -$$

$$+ \times - = -$$

$$1x \cdot 2x + (+x)(-5) + (-3)(+2x) + (-3)(-5)$$

$$2x^2 - 5x - 6x + 15$$

$$\boxed{2x^2 - 11x + 15}$$

$$3 + 5 = +8$$

$$-3 - 5 = -8$$

$$-3 + 5 = +2$$

$$+3 - 5 = -2$$

ex ⑤

$$\frac{3}{5} \times \frac{2}{7} = \frac{3 \times 2}{5 \times 7} = \frac{6}{35}$$

$$\frac{3}{5} \times \frac{4}{1} = \frac{3 \times 4}{5 \times 1} = \frac{12}{5}$$

$$\frac{-2}{3} \times \frac{1}{2} = \frac{-2 \times 1}{3 \times 2} = \frac{-2}{6}$$

ex 6

$$\begin{array}{c} \textcircled{3} \\ \hline 5 \end{array} \begin{array}{c} + \\ \hline 4 \\ \hline 6 \end{array} = \frac{3 \times 6 + 4 \times 5}{5 \times 6} = \frac{18 + 20}{30}$$
$$= \begin{array}{c} 38 \\ \hline 30 \end{array}$$

$$\begin{array}{c} -1 \\ \hline 4 \end{array} \begin{array}{c} + \\ \hline 2 \\ \hline 3 \end{array} = \frac{-1 \times 3 + 2 \times 4}{4 \times 3} = \frac{-3 + 8}{12}$$
$$= \begin{array}{c} +5 \\ \hline 12 \end{array}$$

$$\begin{array}{c} 4 \\ \hline 1 \end{array} \begin{array}{c} + \\ \hline 2 \\ \hline 3 \end{array} = \frac{12 + 2}{1 \times 3} = \begin{array}{c} 14 \\ \hline 3 \end{array}$$

(ex)

$$\begin{array}{c} \textcircled{3} \\ \hline 4 \end{array} \begin{array}{c} - \\ \hline 2 \\ \hline 7 \end{array} = \frac{3 \times 7 - 2 \times 4}{4 \times 7} = \frac{21 - 8}{28}$$
$$= \begin{array}{c} 13 \\ \hline 28 \end{array}$$

ex

$$\begin{array}{c} 1 \\ \hline 2 \end{array} \begin{array}{c} - \\ \hline 5 \\ \hline 6 \end{array} = \frac{1 \times 6 - 5 \times 2}{2 \times 6} = \frac{6 - 10}{12}$$

$$\frac{-4/4}{12/4} = \begin{array}{c} -1 \\ \hline 3 \end{array} = \begin{array}{c} -4 \\ \hline 12 \end{array} = \begin{array}{c} -1 \\ \hline 3 \end{array}$$

$$(\boxed{x} - y)^2 = (\text{الحد الأول})^2 + (\text{الحد الثاني})^2 + (\text{الحد الثاني})(\text{الحد الأول})(2)$$

$$(x)^2 + (-y)^2 + (x)(-y)(2)$$

$$x^2 + y^2 + 2xy -$$

$$(\textcircled{x} + \textcircled{3})^2 = (x)^2 + (3)^2 + (x)(3)(2)$$

$$x^2 + 9 + 6x$$

$$(x \textcircled{-} 3)^2 = (x)^2 + (-3)^2 + (x)(-3)(2)$$

$$x^2 + 9 - 6x$$

$$(\textcircled{2x} + \textcircled{5})^2 = (\textcircled{2x})^2 + (5)^2 + (\textcircled{2x})(5)(\textcircled{2})$$

$$(2)^2(x)^2 + 25 + 20x$$

$$\boxed{4x^2 + 25 + 20x}$$

$$(\textcircled{3x} - \textcircled{4})^2 = (\textcircled{3x})^2 + (-4)^2 + (\textcircled{3x})(\textcircled{-4})(\textcircled{2})$$

$$9x^2 + 16 + 3x(-8)$$

$$9x^2 + 16 - 24x$$