

EXAMPLE 2

$$(15x^2 + 8x - 12) \div (3x + 1)$$

① already done ☺

$$\begin{array}{r}
 \textcircled{3} 5x + 1 \\
 3x + 1 \overline{) 15x^2 + 8x - 12} \\
 \underline{-15x^2 + 5x} \\
 3x - 12 \\
 \underline{-3x + 1} \\
 -13
 \end{array}$$

$$\boxed{5x + 1 - \frac{13}{3x + 1}}$$

6.3
Long
Division

EXAMPLE 1

$$(4x^2 + 3x^3 + 10) \div (x - 2)$$

① $3x^3 + 4x^2 + 0x + 10$

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

remainder

$$\boxed{3x^2 + 10x + 20 + \frac{50}{x - 2}}$$

① write dividend in standard form including terms with a coefficient of 0.

② write division in the same way as you would when dividing number

③ Divide

④ write final answer