

Maths

①
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ii

$$\frac{4a^3 - 6a^2 - 12a}{2a}$$

$$= 2a \frac{2a^2 - 3a - 6}{4a^3 - 6a^2 - 12a}$$

$$\boxed{2a^2 - 3a - 6}$$

$$2a \times 2a^2 = 4a^{2+1}$$

$$2a \times 3a = 6a^2$$

$$2a \times 6 = 12a$$

iii

$$\frac{59x^3y^3 + 15z^4y^2 + 3x^5z}{3x^5y}$$

$$= \boxed{59x^{-2}y^2 + 15z^4y + z}$$

$$59x^3y^3 / 3x^5y$$

$$59x^{3-5} = x^{-2}$$

$$y^3 - 1 = y^2$$

$$y^{3-1} = y^2$$

iii

~~$$\begin{array}{r} 6x^2 + 19x + 10 \\ x + 5 \\ \hline 6x - 11 + 6 \\ x + 5 \sqrt{6x^2 + 19x + 10} \\ \underline{-30x} \\ -11x + 10 \\ \underline{+6} \end{array}$$~~

$$6x \times x = 6x^2$$

$$6x \times 5 = +30x$$

$$+30x \Rightarrow -30x$$

$$-11 \times x = -11x$$

$$-11 \times 5 = -6$$

$$\rightarrow +6$$

$$x \times 6x = 6x^2$$

$$11 \times x = 11x$$

$$\begin{array}{r} 6x - 11 + 65 \\ x + 5 \sqrt{6x^2 + 19x + 10} \\ \underline{-30x} \\ -11x + 10 \\ \underline{+55} \end{array}$$

$$\boxed{6x - 11 + 65}$$