

(1)[5 points] Simplify

$$\frac{(-2)^3 x^4 (yz)^2}{3^2 x y^3 z}$$

Express your answer so that all exponents are positive.

$$\begin{aligned} & \frac{(-2)^3 x^4 (yz)^2}{3^2 x y^3 z} \\ &= \frac{-8}{9} \cdot \frac{x^4}{x} \cdot \frac{y^2 z^2}{y^3 z} \\ &= -\frac{8}{9} \cdot x^3 \cdot \frac{z}{y} \\ &= \frac{-8x^3 z}{9y} \end{aligned}$$

(2)[5 points] Expand

$$\begin{aligned} & (2x + 5)(x + 2) \\ &= 2x^2 + 4x + 5x + 10 \\ &= 2x^2 + 9x + 10 \end{aligned}$$

(3)[5 points] Factor

$$x^2 - 10x + 21$$

$$= (x - 7)(x - 3)$$