

$$\begin{aligned} 3 \text{ (VIII)} \quad & 10ab + 4a + 5b + 2 \\ & = 2a(5b + 2) + 1(5b + 2) \\ & = (5b + 2)(2a + 1) \end{aligned}$$

$$\begin{aligned} 3 \text{ (ix)} \quad & 6xy - 4y + 6 - 9x \\ & = 2y(3x - 2) - 3(3x - 2) \\ & = (3x - 2)(2y - 3) \end{aligned}$$

$$\begin{aligned} 4 \text{ (i)} \quad & a^4 - b^4 \\ & = (a^2)^2 - (b^2)^2 \\ & = (a^2 - b^2)(a^2 + b^2) \\ & = (a - b)(a + b)(a^2 + b^2) \end{aligned}$$

$$\begin{aligned} \text{(ii)} \quad & p^4 - 81 \\ & = (p^2)^2 - 9^2 \\ & = (p^2 - 9)(p^2 + 9) \\ & = (p^2 - 3^2)(p^2 + 9) \\ & = (p - 3)(p + 3)(p^2 + 9) \end{aligned}$$