

Product of Powers

• to multiply two powers that have the same base, add the exponents ($a^m \cdot a^n = a^{m+n}$)

↑ ↑
same base

$$\textcircled{1} \quad x^3 + x^8 = x^{3+8} = \textcircled{x^{11}}$$

$$\textcircled{2} \quad a^4 + a^6 = a^{4+6} = \textcircled{a^{10}}$$

$$\textcircled{3} \quad 2x^2 \cdot x^3 =$$

$$\begin{array}{l} \sqrt{} \\ (2 \cdot 1) \cdot x^2 \cdot x^3 \\ 2 \cdot x^{2+3} \\ \textcircled{2x^5} \end{array}$$

$$\textcircled{4} \quad (5x^7)(x^6) = 5x^{7+6} = \textcircled{5x^{13}}$$

$$\textcircled{5} \quad (2x^4y^1)(3x^1y^6)$$

$$\begin{array}{l} 6x^{4+1}y^{1+6} \\ = \textcircled{6x^5y^7} \end{array}$$

$$\textcircled{y = y^1}$$

$$\begin{array}{l} \textcircled{6} \quad (4ab^6)(-7a^2b^3) \\ -28(a^1 \cdot a^2)(b^6 \cdot b^3) \\ \textcircled{-28a^3b^9} \end{array}$$