

$$2) 81X^4 - 100Y^2$$

$$X^2 - Y^2 = (X - Y)(X + Y)$$

$$2) \underline{81x^4 - 100y^2}$$

$$\begin{aligned} x^2 - y^2 &= (x - y)(x + y) \\ &= 9^2 (X^2) - 10^2 (Y^2) \\ &= (9X^2) - (10Y^2) \\ &= (9X^2 - 10Y)(9X^2 + 10Y) \end{aligned}$$

مثال : حلل المقادير التالية :

$$1) 27X^3 - 64$$

$$X^3 + Y^3 = (X + Y)(X^2 - XY + Y^2)$$

$$X^3 - Y^3 = (X - Y)(X^2 + XY + Y^2)$$

$$\begin{aligned} x^3 + y^3 &= (x + y)(x^2 - xy + y^2) \\ x^3 - y^3 &= (x - y)(x^2 + xy + y^2) \end{aligned}$$

$$\begin{aligned} 1) \underline{27x^3 - 64} \\ &= 3^3 X^3 - 4^3 \\ &= (3X)^3 - (4)^3 \\ &= (3X - 4)(9X^2 + 12X + 16) \end{aligned}$$

$$2) 2m^3 + 16$$

$$2(m^3 + 2^3) = 2(m + 2)(m^2 - 2m + 4)$$

$$\begin{aligned} 2) \underline{2m^3 + 16} \\ &= 2m^3 + 2^4 \\ &= 2(m^3 + 2^3) \\ &= 2(m + 2)(m^2 - 2m + 4) \end{aligned}$$

$$3) 6X^5 - 48X^2$$

$$X^3 + Y^3 = (X + Y)(X^2 - XY + Y^2)$$

$$X^3 - Y^3 = (X - Y)(X^2 + XY + Y^2)$$

$$6X^2(X^3 - 8) = 6X^2(X - 2)(X^2 + 2X + 4)$$

$$3) 6x^5 - 48x^2$$

$$= 6x^2(x^3 - 8)$$

$$= 6x^2(x - 2)(x^2 + 2x + 4)$$

$$x^3 + y^3 = (x + y)(x^2 - xy + y^2)$$

$$x^3 - y^3 = (x - y)(x^2 + xy + y^2)$$

مثال: حلل المقادير التالية :

$$1) X^2 - 5X + 6$$

$$1) (X - 2)(X - 3)$$

$$2) 6X^2 - 5X + 1$$

$$2) (2X - 1)(3X - 1)$$

$$3) 6X^2 - 14X - 12$$

$$3) (2X - 6)(3X + 2)$$

$$4) X^3 - X$$

$$4) X(X^2 - 1)$$

$$= X(X^2 - 1^2)$$

$$= X(X - 1)(X + 1)$$

مثال ١: اجمع المقادير الجبرية:

$$1) -2X^2 + Y - 3Z^2 \quad 2) 3X^2 + 4Y + 2Z^2$$

$$\begin{array}{r} -2X^2 + Y - 3Z^2 \\ 3X^2 + 4Y + 2Z^2 \\ \hline = X^2 + 5Y - Z^2 \end{array}$$

مثال ٢ اطرح المقدار الجبري $2X^2 + Y - 3Z^2$ من المقدار الجبري $3X^2 + 4Y + 2Z^2$

$$\begin{array}{r} 3X^2 + 4Y + 2Z^2 \\ 2X^2 - Y + 3Z^2 \\ \hline = X^2 + 3Y + 5Z^2 \end{array}$$

مثال ٣: اوجد حاصل ضرب $(3X^2 - 2Z^2)(2X^2 - Y + 2Z)$

$$\begin{array}{r} 9X^4 - 3X^2Y + 6X^2Z \\ 6Z^2X^2 + Z^2Y - 4Z^3 \end{array}$$