

ex. 6 分解下列各式

1) $x^2 + \frac{1}{x^2}$

$$\left(x + \frac{1}{x}\right)^2 = x^2 + 2 + \frac{1}{x^2}$$

$$\Rightarrow x^2 + \frac{1}{x^2} = \left(x + \frac{1}{x}\right)^2 - 2 \#$$

2) $x^3 + \frac{1}{x^3}$

$$= \left(x + \frac{1}{x}\right) \left(x^2 - x \cdot \frac{1}{x} + \frac{1}{x^2}\right)$$

$$= \left(x + \frac{1}{x}\right) \left(x^2 - 1 + \frac{1}{x^2}\right) \#$$

3) $a^6 - b^6$

$$= (a-b)(a^5 + a^4b + a^3b^2 + a^2b^3 + ab^4 + b^5) \#$$

4) $a^7 + b^7$

$$= (a+b)(a^6 - a^5b + a^4b^2 - a^3b^3 + a^2b^4 - ab^5 + b^6) \#$$