

5.10 Factor by Grouping

$$4(x+y)^2 - (2y-z)^2$$

$$\text{let } a = x+y$$

$$b = 2y-z$$

$$4a^2 - b^2$$

$$(2a-b)(2a+b)$$

$$(2x+2y-2y-z)(2x+2y+2y-z)$$

$$(2x-z)(2x+4y-z)$$

$$(x^2 - 2xy + y^2) - 4$$

$$(x-y)^2 - 4$$

$$\text{let } a = x - y$$

$$a^2 - 2^2$$

$$(a+2)(a-2)$$

$$(x-y+2)(x-y-2)$$

$$(m^2 - n^2) - 2m + 1$$

$$(m-1+n)(m-1-n)$$

$$(m^2 - 2m + 1) - n^2$$

$$(m-1)^2 - n^2$$

$$\text{let } a = m-1$$

$$\cdot \begin{array}{l} a^2 - n^2 \\ (a+n)(a-n) \end{array}$$

$$\begin{aligned} & a^2 - b^2 - 2a + 1 && (a-1+b)(a-1-b) \\ & (a^2 - 2a + 1) - b^2 \\ & (a-1)^2 - b^2 \\ & \text{let } x = a-1 \\ & x^2 - b^2 \\ & (x+b)(x-b) \end{aligned}$$

$$4s^2 - 4t^2 + 4s + 1$$

$$(4s^2 + 4s + 1) - 4t^2$$

$$(2s+1)^2 - (2t)^2$$

$$(2s+1-2t)(2s+1+2t)$$

$$\begin{aligned} & m^2 - 9n^2 + 9 - 6m \\ & (m^2 - 6m + 9) - 9n^2 \\ & (m-3)^2 - (3n)^2 \\ & (m-3-3n)(m-3+3n) \end{aligned}$$

$$\begin{aligned} & a^4 + b^4 - c^4 + 2a^2b^2 \\ & (a^4 + 2a^2b^2 + b^4) - c^4 \\ & (a^2 + b^2)^2 - (c^2)^2 \\ & (a^2 + b^2 - c^2)(a^2 + b^2 + c^2) \end{aligned}$$

$$c^2 = a^2 + b^2$$

$$c = \sqrt{a^2 + b^2} \neq a + b$$

$$(h^2 - 4k^2) + (4h - 8k)$$

$$(h+2k)(h-2k) + 4(h-2k)$$

$$(h-2k)(h+2k+4)$$

pas
1-37 odd