

$$\begin{array}{r} -24 \\ \hline 1 \cdot 24 \\ 2 \cdot 12 \\ \hline -3 \cdot 8 \end{array}$$

	x	4	
$2x$	$2x^2$	$8x$	
-3	$-3x$	-12	

$$(2x-3)(x+4)$$

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$$2x^2 + 5x - 12$$

$$9-25 \quad a^2 - b^2 = (a+b)(a-b) \quad \checkmark$$

$$a^2 - 2ab + b^2 = (a-b)^2 \rightarrow \text{3 terms} \quad \checkmark$$

Warm-up : Factor completely

$$(1) \quad 16x^4 - 1 \quad (4x^2 + 1)(4x^2 - 1)$$

$$(2) \quad x^2 + 5x - 24 \quad (4x^2 + 1)(2x + 1)(2x - 1)$$

$$(x-3)(x+8)$$

$$a \cdot b \quad \begin{array}{r} 1 \cdot 24 \\ 2 \cdot 12 \\ \hline -3 \cdot 8 \\ \hline 4 \cdot 6 \end{array}$$

$$(x+8)(x-3)$$

Comm. (x)

$$(3) \quad 3x^3 + 30x^2 + 75x$$

$$3x(x^2 + 10x + 25)$$

$$3x(x+5)^2$$

$$(4) \quad y^3 - 4y^2 - 12y \quad y(y^2 - 4y - 12)$$

$$(5) \quad 5g^5 - 80g^3$$

$$y(y+2)(y-6)$$

$$5g^3(g^2 - 16)$$

$$5g^3(g+4)(g-4)$$

$$\begin{array}{r} -12 \\ 1 \cdot 12 \\ \hline 2 \cdot 6 \\ \hline 3 \cdot 4 \end{array} \quad 2, -6$$

$$\text{Ex: } a^2 - 5a + 4$$

$\frac{4a}{2 \cdot 2}$
 ~~$(a-2)^2$~~
 $\frac{2a}{2 \cdot 2}$

$$\frac{4}{2 \cdot 2} - 1 - 4$$

$$(a-1)(a-4)$$

○

$$\text{Ex: } x^2 - 11x - 26$$