

5.3 Adding & Subtracting Polynomials

October 9, 2015 12:15 PM

- 1 re-write the expression and group like terms beside one another
- 2 sort the terms and arrange in descending powers
- 3 Add/subtract to simplify the expression

Ex #1

$$(a) \quad \underline{1a} + \underline{3a} + \underline{2b} - \underline{5b}$$

$$= \underline{10a - 3b}$$

← can NOT simplify any further

$$(b) \quad (3x - 4) - (2x + 3)$$

$$= \underline{3x} - \underline{4} - \underline{2x} - \underline{3}$$

$$= 3x - 2x - 4 - 3$$

$$= \underline{1x - 7}$$

the subtraction sign changes every term inside the 2nd brackets

$$(c) \quad (4x^2 - 5x + 7) - (3x^2 + 2x - 5)$$

$$= \underline{4x^2} - \underline{5x} + \underline{7} - \underline{3x^2} - \underline{2x} + \underline{5}$$

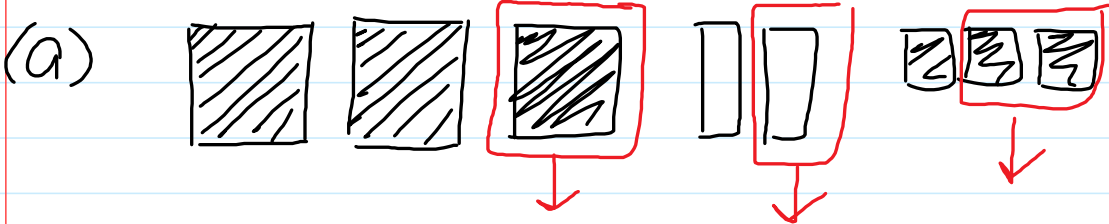
$$= 4x^2 - 3x^2 - 5x - 2x + 7 + 5$$

$$= \underline{1x^2 - 7x + 12}$$

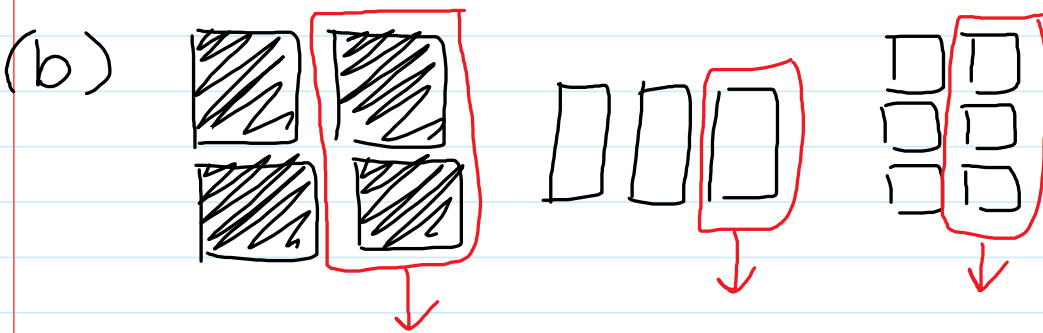
↑
highest lowest

\uparrow
 highest power ... > lowest power # descending order
 $x^3 \rightarrow x^2 \rightarrow x \rightarrow \#$

Ex #2



$$(3x^2 - 2x + 3) - (1x^2 - 1x + 2)$$



$$(4x^2 - 3x - 6) - (2x^2 - 1x - 3)$$

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