Sec. 5.3 Adding & Subtracting Polynomials

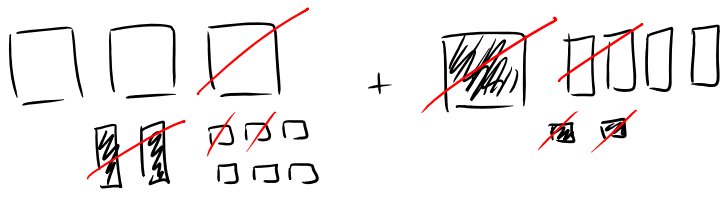
p. _____

1

Adding Polynomials

Example 1: $(3s^2 - 2s + 6) + (-s^2 + 4s - 2)$

Draw algebra tiles to model & then answer symbolically



$2s^2 + 2s + 4$

1. DRAW
2. ZERO PAIR
3. WRITE ANSWER

2

Example 2: Add symbolically

$(5n^2 + 7n - 8) + (-7n^2 - 16n - 5)$ REMOVE BRACKETS.

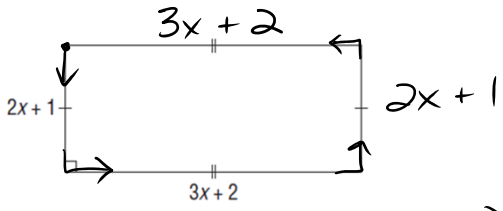
$5n^2 + 7n - 8 + -7n^2 - 16n - 5$ GROUP LIKE TERMS

$\underbrace{5n^2 - 7n^2}_{-2n^2} \quad \underbrace{+7n - 16n}_{-9n} \quad \underbrace{-8 - 5}_{-13}$ COMBINE LIKE TERMS

$= -2n^2 - 9n - 13$ WHAT REMAINS IS YOUR ANSWER.

3

Example 3: Write a polynomial for the perimeter of this rectangle in simplified form. Justify your answer.



$P = (2x + 1) + (3x + 2) + (2x + 1) + (3x + 2)$

$= 2x + 1 + 3x + 2 + 2x + 1 + 3x + 2.$

$= 10x + 6$

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Subtraction Polynomials

To subtract polynomials, "**add the opposite**"

Ex) 5 – 2 = 3 is the same as 5 + (-2) = 3

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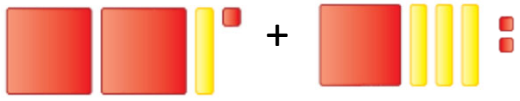
Method 1: Add the opposite ("KEEP CHANGE CHANGE")

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



Answer: $-3x^2 + 4x - 3$

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Method 2: Symbolically use the idea of adding the opposite and then group like terms and simplify.

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

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

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

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

$-3x^2 + 4x - 3$

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