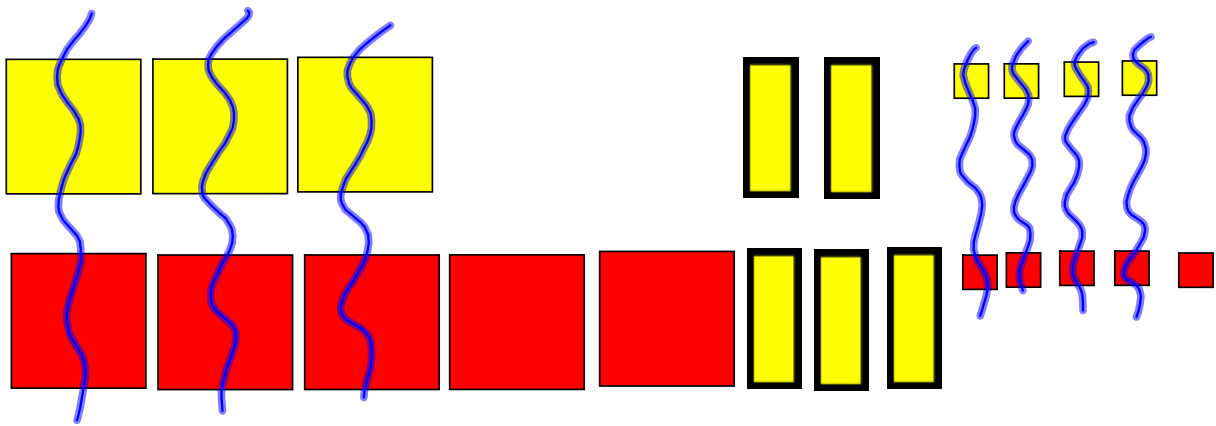


## Section 5.3: Adding Polynomials

Process for Adding Polynomials:

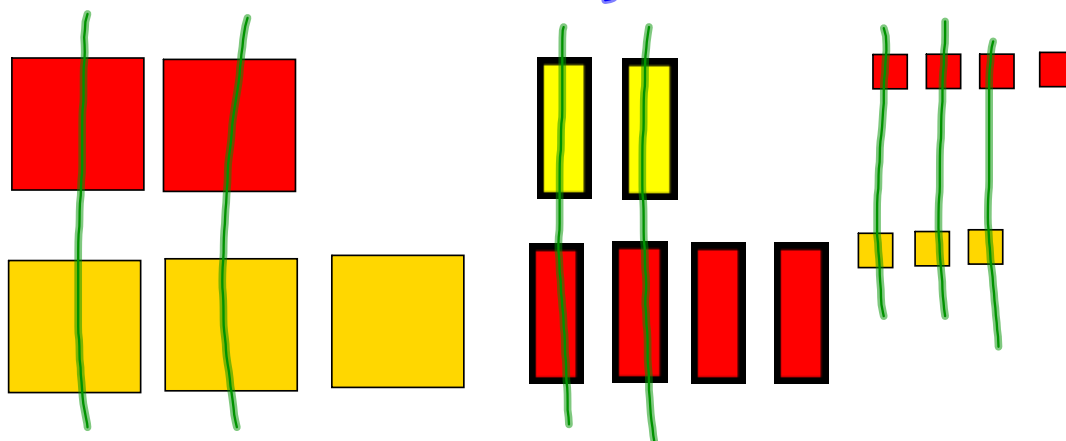
- (1) Use tiles to represent both polynomials.
- (2) Group together the like terms.
- (3) Remove or cancel zero pairs
- (4) The remaining tiles are the sum.  
Write the polynomial answer.

Example #1: Determine the sum of:  
 $3x^2 + 2x + 4$  and  $-5x^2 + 3x - 5$ .



Ans)  $-2x^2 + 5x - 1$

Exempl. #2: Add:  $-2x^2 + 2x - 4$  and  $3x^2 - 4x + 3$



Ans)  $x^2 - 2x - 1$

Example #3: Add the following polynomials without using tiles:

$$\underline{7y+14} \quad \text{and} \quad -6y^2+\underline{y-6}$$

$$\text{Ans) } -6y^2 + (7y + y) + (14 - 6)$$

$$= -6y^2 + 8y + 8$$


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Example #4: Find the sum:

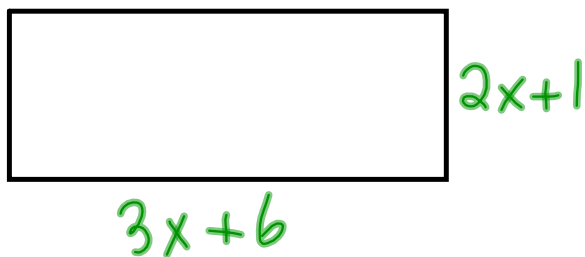
$$(25x^2+5) + (-10x^2+15x-20)$$

$$\text{Ans) } \underline{25x^2+5} \quad \underline{-10x^2+15x-20}$$

$$= (25x^2 - 10x^2) + 15x + (5 - 20)$$

$$= 15x^2 + 15x - 15$$

Example #5: Write a polynomial for the perimeter of the following rectangle:



$$P = 10x + 14$$

Answer

$$3x+6$$

$$3x+6$$

$$2x+1$$

$$2x+1$$

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$$10x + 14$$

(b) What is the perimeter if  $x=3$

$$P = 10x + 14$$

$$P = 10(3) + 14$$

$$P = 30 + 14$$

$$P = 44$$