

## 2/12 Algebra - Downing

### 7.1B Add/Subtract Polynomials

Like Terms - have the same variables with the same exponents.

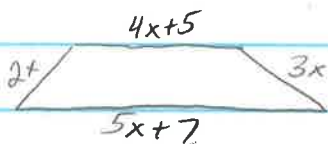
Combine them by add/subtracting the coefficients.

Ex)  $4x^3 + 4x^2 - 5x^3 + 3x^2 - 2 \rightarrow -x^3 + 7x^2 - 2$  Cubic Trinomial  $LC = -1$

Ex)  $(12x^2 + 5x - 7) - (-4x^2 + 3x - 1) \leftarrow$  distribute the negative to second set.  
 $12x^2 + 5x - 7 + 4x^2 - 3x + 1 = 16x^2 + 2x - 6$  Quadratic Trinomial  $LC = 16$

Ex)  $(2x^3 - 5x^2 + x) + (2x^2 + x^3 - 1) \leftarrow$  with addition you can ignore the parenthesis  
 $= 3x^3 - 3x^2 + x - 1$  Cubic Polynomial  $LC = 3$

Ex) Write an expression to represent the perimeter.  
 (Add up all sides)



$$(2x) + (4x+5) + (3x) + (5x+7)$$

$$14x + 12$$

Ex)  $-16t^2 + V_0t + S_0 =$  height of an object after  $t$  seconds.

$\uparrow$   
 acceleration due to gravity  
 feet per second<sup>2</sup>

$t =$  time in seconds

$V_0 =$  initial vertical velocity

$S_0 =$  initial height

Ex) A penny is thrown straight down from a height of 200 feet. At the same time, a paintbrush is dropped from a height of 100 feet. The polynomials represent the heights (in feet) of the objects after  $t$  seconds.

□	- penny	$-16t^2 - 40t + 200$	Write a polynomial to represent the distance between the penny and the brush.
□		$-16t^2 + 100$	
□	- paintbrush	$-16t^2 + 100$	

$$(-16t^2 - 40t + 200) - (-16t^2 + 100) = -16t^2 - 40t + 200 + 16t^2 - 100 = -40t + 100 \searrow$$

$= -40t + 100$      \* how far apart are they after 2 seconds  
 $-40(2) + 100$      - plug 2 in for  $t$ .  
 $-80 + 100$   
 $20 \text{ ft.}$

### HW - Big Ideas

pg. 362 # 28-38 even 41, 43-46, 51-53, 55