Section 5.3
Adding Polynomials
Day 2
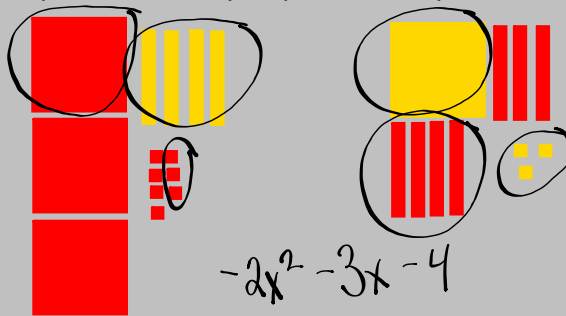
1) Add the following: (Show your work)

$(7b^2 - 15b + 11) + (-2b^2 - 5b + 6)$

$7b^2 - 15b + 11 - 2b^2 - 5b + 6$.

$7b^2 - 2b^2 - 15b - 5b + 11 + 6$

$5b^2 - 20b + 17$

Represent the following in tiles, then simplify.

$(-3x^2 +4x -7)+ (x^2 -7x +3)$

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

Last Nights
Homework
Any Questions???
Page 228 - 229

3 (b)MUST USE ALGEBRA TILES
4) MUST USE ALGEBRA TILES
5) NO algebra tiles (a,d)
6
8
9

Worksheet Questions 7-12

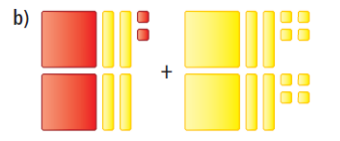**3.** Write the polynomial sum modelled by each set of tiles.

a)

+

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

$3x + 5 - 2x + 2$

$3x - 2x + 5 + 2$

$x + 7$

b)

+

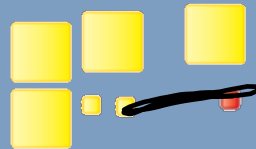$(-2x^2 + 4x - 2) + (2x^2 + 4x + 8)$

$-2x^2 + 4x - 2 + 2x^2 + 4x + 8$

$-2x^2 + 2x^2 + 4x + 4x - 2 + 8$

8x + 6

4. Explain how to use algebra tiles to determine $(3x^2 + 2) + (x^2 - 1)$. What is the sum?

$(3x^2 + 2) + (x^2 - 1).$ = $4x^2 + 1$

6. Add these polynomials. Visualize algebra tiles if it helps.

a) $2x + 4$
   $+ 3x - 5$
   $5x - 1$

b) $3x^2 + 5x$
   $+ -2x^2 - 8x$
   $x^2 - 3x$

c) $3x^2 + 5x + 7$
   $+ -8x^2 - 3x + 5$
   $-5x^2 + 2x + 12$

8. Use a personal strategy to add.

a) $(6x + 3) + (3x + 4)$ = 9x + 7

b) $(5b - 4) + (2b + 9)$ = 7b + 5

c) $(6 - 3y) + (-3 - 2y)$ = -5y + 3

d) $(-n + 7) + (3n - 2)$ = 2n + 5

e) $(-4s - 5) + (6 - 3s)$ = -7s + 1

f) $(1 - 7h) + (-7h - 1)$ = -14h

g) $(8m + 4) + (-9 + 3m)$ = 11m - 5

h) $(-8m - 4) + (9 - 3m)$ = -11m + 5

9. Add. Which strategy did you use each time?

a) $(4m^2 + 4m - 5) + (2m^2 - 2m + 1)$ = 6m² + 2m - 4

b) $(3k^2 - 3k + 2) + (-3k^2 - 3k + 2)$ = -6k + 4

c) $(-7p - 3) + (p^2 + 5)$ = p² - 7p + 2

d) $(9 - 3t) + (9t + 3t^2 - 6t)$ = 3t² + 9

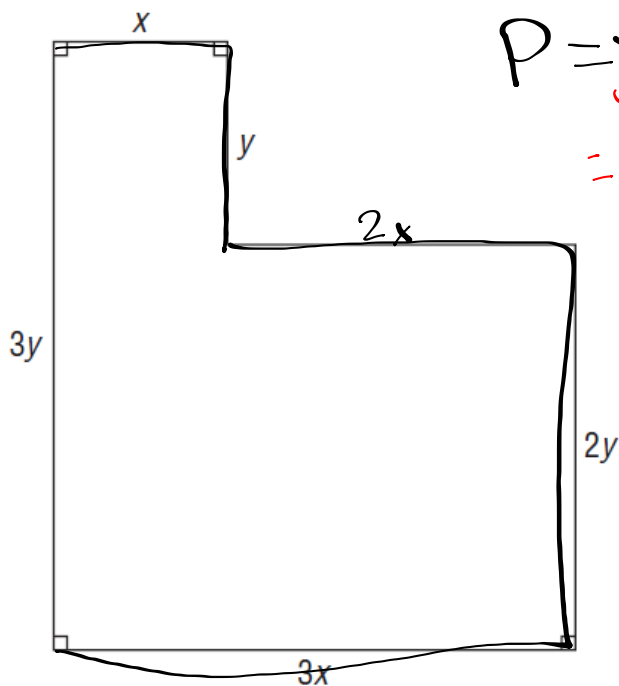e) $(3x^2 - 2x + 3) + (2x^2 + 4)$ = 5x² - 2x + 7

f) $(3x^2 - 7x + 5) + (6x - 6x^2 + 8)$ = -3x² - x + 13

g) $(6 - 7x + x^2) + (6x - 6x^2 + 10)$ = -5x² -x + 16

h) $(1 - 3r + r^2) + (4r + 5 - 3r^2)$ = -2r² + r +6

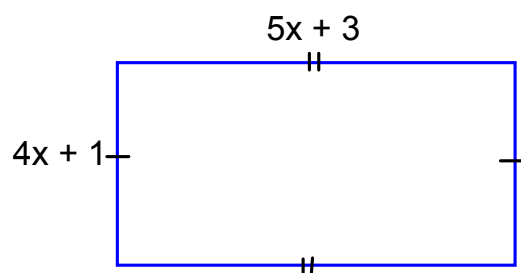**22.** Write a polynomial for the perimeter of this shape. Simplify the polynomial.

Handwritten:
$$P = x + y + 2x + 2y + 3x + 3y$$
$$= 6x + 6y$$

[Underlined link:] Determining a Polynomial for the perimeter of a rectangle

a) Write a polynomial for the perimeter of this rectangle. Simplify the polynomial.

5x + 3

4x + 1

Perimeter = the sum of all sides

= (4x + 1) + (4x + 1) + (5x + 3) + (5x + 3)

= 4x + 1 + 4x + 1 + 5x + 3 + 5x + 3

= 4x + 4x + 5x + 5x + 1 + 1 + 3 + 3

= 18x + 8

The perimeter is 18x + 8.

Adding Polynomials in Two Variables

Add: $(3s^2 + s - 4c - 5cs + 2s^2) + (-5c^2 + 3cs + 6c - 4s + 7c^2)$

Remove Brackets.

$= 3s^2 + s - 4c - 5cs + 2s^2 - 5c^2 + 3cs + 6c - 4s + 7c^2$

Group like terms.

$= 3s^2 + 2s^2 + s - 4s - 4c + 6c - 5cs + 3cs - 5c^2 + 7c^2$

Combine like terms.

$= 5s^2 - 3s + 2c - 2cs + 2c^2$

Create a Polynomial that

adds to give $4x^2 + 6x - 4$ (ANS)

When given:

$$-2x^2 + 2x - 6$$

$$+ \quad 6x^2 + 4x + 2$$
$$\overline{ 4x^2 + 6x - 4}$$

Create a Polynomial that
adds to give $-x^2 -3x + 8$ (ANS)

When given:

$$-7x^2 + 4x - 5$$
$$+ \quad 6x^2 - 7x + 13$$
$$\overline{ -x^2 - 3x + 8}$$

Class/Homework

Page 228 - 229   .

#10 a(i, iii)
#11a,c
#12
#14
#15ace
#16a
#17ac