Section 5.3
Adding Polynomials
Day 2

1) Add the following: (Show your work)

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

2) Represent the following in tiles, then simplify.

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

Section 5.3
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Day 2

1) Add the following: (Show your work)

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

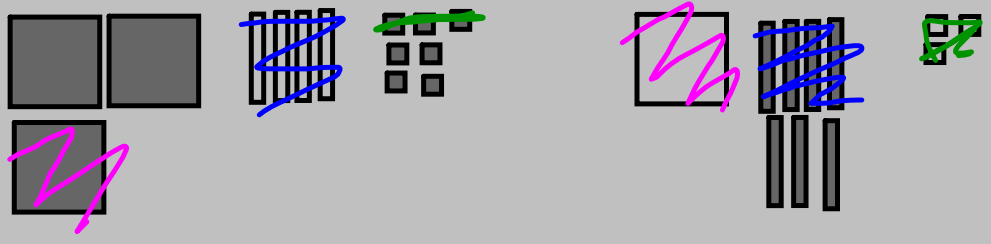
$7b^2 - 15b + 11 - 2b^2 - 5b + 6$

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

$5b^2 - 20b + 17$

2) Represent the following in tiles, then simplify.

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



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

Class/Homework

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3 (b) MUST USE ALGEBRA TILES
4) MUST USE ALGEBRA TILES
5) NO algebra tiles
6(ac)
8(abefg)
9(abdef)

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

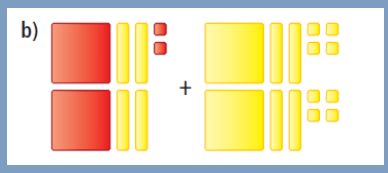
a) 

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

3x + 5 - 2x + 2

3x - 2x + 5 + 2

x + 7

b) 

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

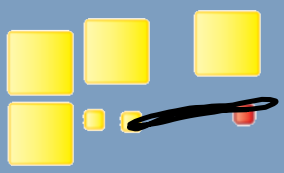
- $2x^2$ + 4x - 2 + $2x^2$ + 4x + 8

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

$$\begin{array}{r} 3\ 2 \\ +\ 1\ 5 \\ \hline 4\ 7 \end{array}$$

8. Use a personal strategy to add.

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

$6x + 3x + 3 + 4$
$= 9x + 7$

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

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

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

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

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

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

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

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

Adding Polynomials Without Tiles

understood +1 in front of second bracket so distribute through

Add: $(5c - 11) + (-4c^2 + c + 7)$

$= 5c - 11 - 4c^2 + c + 7$ Group like terms.

$= -4c^2 + 5c + c - 11 + 7$ Combine like terms by adding their c
(remember that c has a coefficient of

$= -4c^2 + 6c - 4$

Method 2:

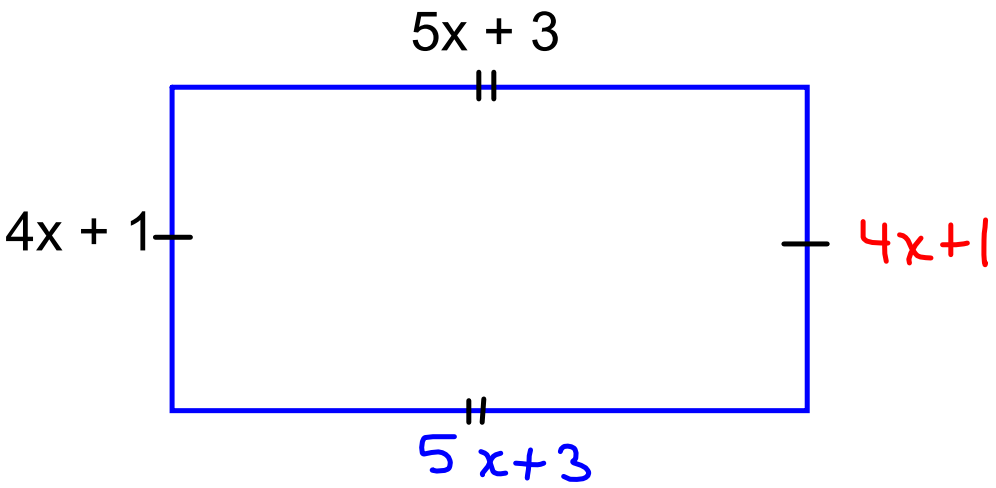
Add vertically. Line up the like terms, then add their coefficients.

$$\begin{array}{rr} & 5c - 11 \\ + & -4c^2 + c + 7 \\ \hline & -4c^2 + 6c - 4 \end{array}$$

So, $(5c - 11) + (-4c^2 + c + 7) = -4c^2 + 6c - 4$

Determining a Polynomial for the perimeter of a rectangle

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



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.

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

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

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

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

$5s^2 \quad + 2c^2 \quad - 2cs \quad +2c \quad -3s$

Create a Polynomial that

adds to give $4x^2 + 6x - 4$ answer

When given:

$$-2x^2 + 2x - 6$$
$$+ (6x^2 + 4x + 2)$$
$$4x^2 + 6x - 4$$

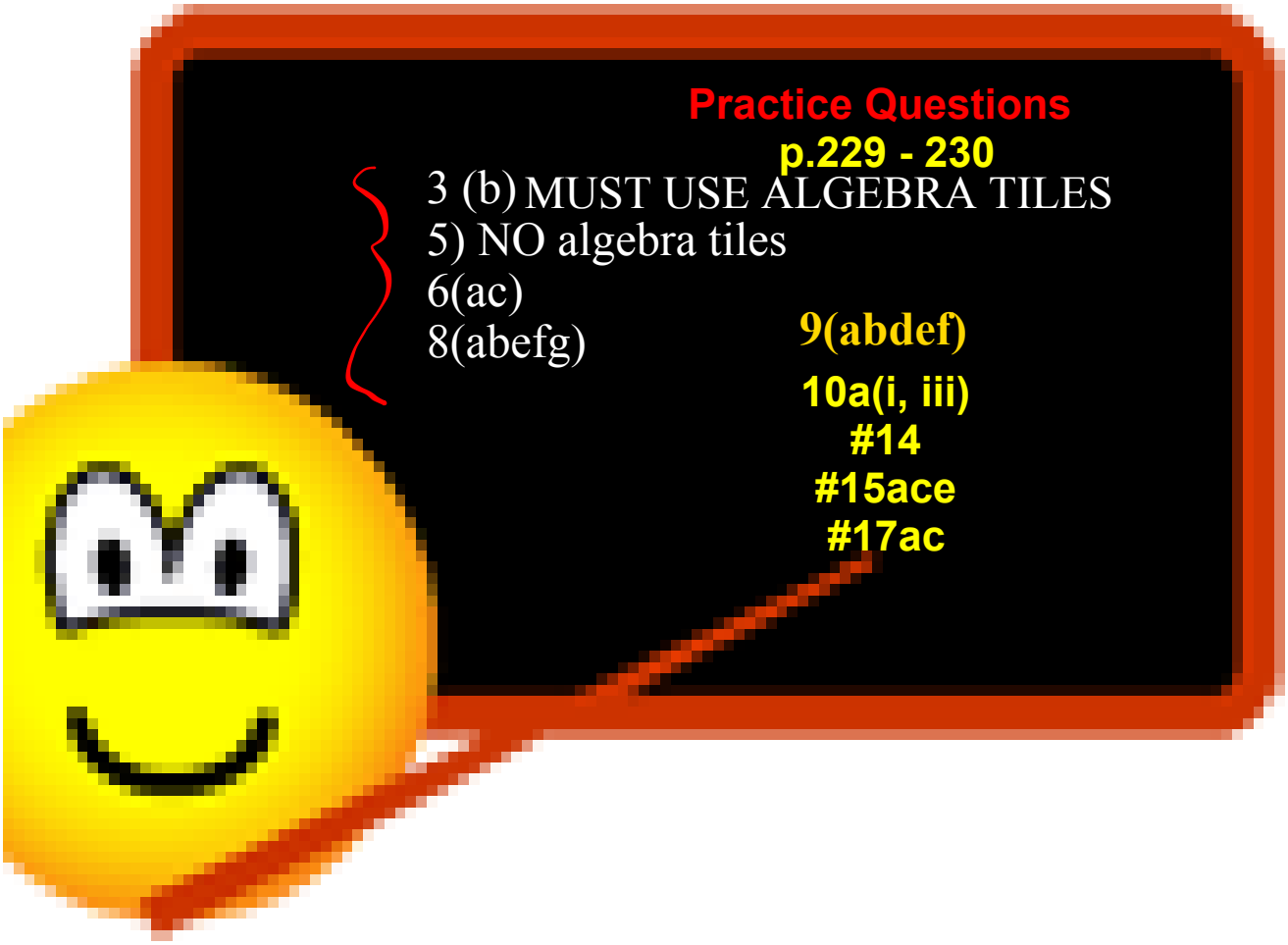
Create a Polynomial that adds to give $-x^2 - 3x + 8$

When given:

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

$$+ (6x^2 - 7x + 13)$$

$$- x^2 - 3x + 8$$


Practice Questions
p.229 - 230
3 (b) MUST USE ALGEBRA TILES
5) NO algebra tiles
6(ac)
8(abefg)
9(abdef)
10a(i, iii)
#14
#15ace
#17ac