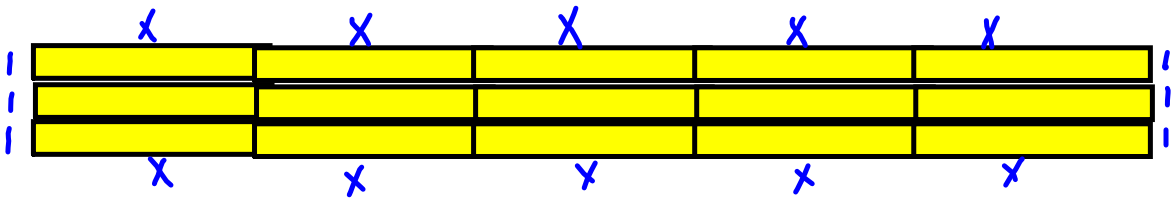
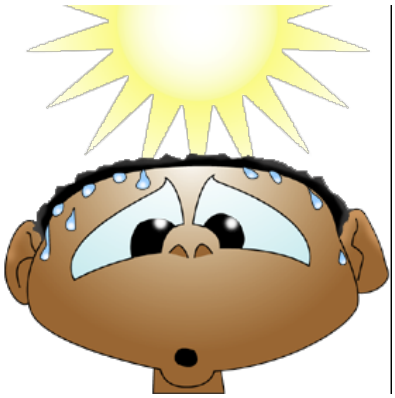
Warm-Up

Nov 25

Determine the perimeter of this rectangle.





Perimeter $= 5x + 3 + 5x + 3$
$= 10x + 6$

Section 5.3 Adding Polynomials

Day 1

Determine the sum of $6x^2 + 2x + 9$ and $-3x^2 + 4x - 5$

When we write the sum of two polynomials, we write each polynomial in brackets:

$1(6x^2 + 2x + 9) + (-3x^2 + 4x - 5)$

Now, to solve...

$6x^2 + 2x + 9 - 3x^2 + 4x - 5$

$6x^2 - 3x^2 + 2x + 4x + 9 - 5$

$3x^2 + 6x + 4$

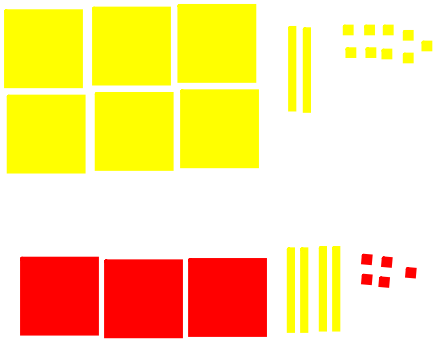
We can solve the question with or without algebra tiles.

Tiles

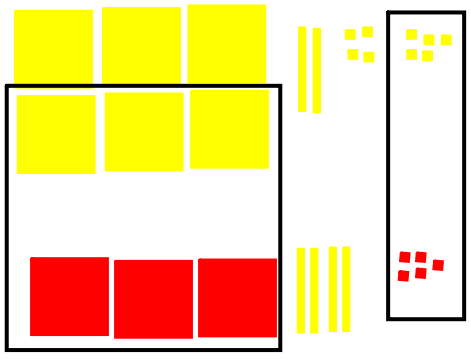
Display : $6x^2 + 2x + 9$

Display: $-3x^2 + 4x - 5$

Combine the displays.
(Group like Tiles)



Remove Zero Pairs.



The remaining tiles represent

$3x^2 + 6x + 4$

No Tiles

The sum is:
$(6x^2 + 2x + 9) + (-3x^2 + 4x - 5)$

This is written as:
$6x^2 + 2x + 9 - 3x^2 + 4x - 5$

Group like terms:
$6x^2 - 3x^2 + 2x + 4x + 9 - 5$

Combine like terms:
$3x^2 + 6x + 4$

Adding Polynomials Without Tiles

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

We can add the polynomials by adding the coefficients of the like terms.
We can do this in two different ways:

Method 1:

Add horizontally:

$(5c - 11) + (-4c^2 + c + 7)$	Remove the brackets.
$= 5c - 11 - 4c^2 + c + 7$	Group like terms.
$= -4c^2 + 5c + c - 11 + 7$	Combine like terms by adding their coefficients (remember that c has a coefficient of 1!)
$= -4c^2 + 6c - 4$	

Method 2:

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

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

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

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

$12x^2+9x-6-10x^2+6x-14$

signs change when multiplying by a negative!

$12x^2-10x^2+9x+6x-6-14$

$2x^2+15x-20$

Class/Homework

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3)
5) no algebra tiles just add
6)
8)
9)

Section 5.3
Adding Polynomials

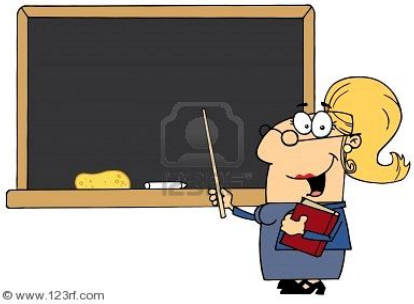
Day 2

Add the following: (Show your work)

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

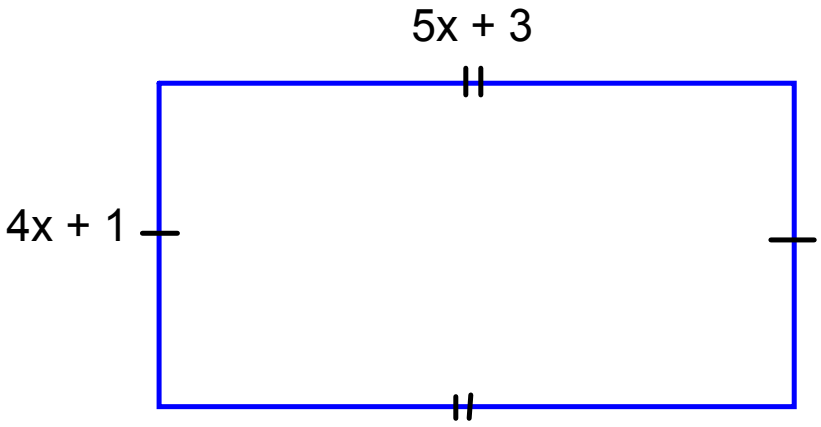
Check you homework
from the back of the textbook

Are their any questions that you would like me to complete on the baord?



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

=

=

=

=

The perimeter is

b) Substitute to check the answer.

Choose a value for x, such as x = 1.

Write the addition sentence for the perimeter:

4x + 1 + 4x + 1 + 5x + 3 + 5x + 3 = 18x + 8

Substitute x = 1

Do each side of the addition statement separately:

Left Side:

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

=

=

=

Right Side:

18x + 8

=

=

=

Since the left side equals the right side, the polynomial for the perimeter is correct!

Adding Polynomials in Two Variables

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

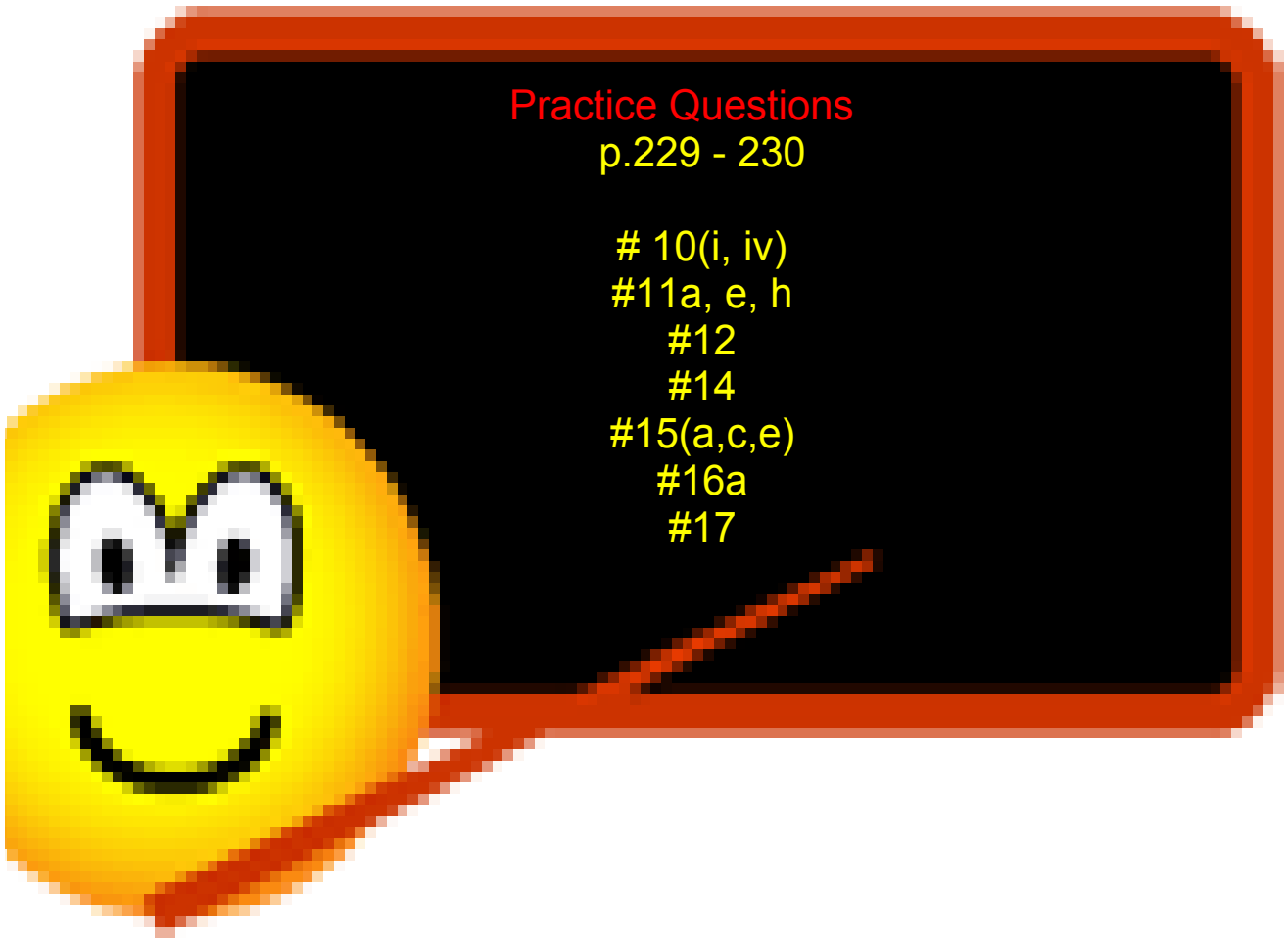
$= 3s^2 + s - 4c - 5cs + 2s^2 - 5c^2 + 3cs + 6c - 4s + 7c^2$ Group like terms.

$= 3s^2 + 2s^2 + s - 4s - 4c + 6c - 5cs + 3cs - 5c^2 + 7c^2$ Combine like terms.

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

Notice here they put all the "s" terms together and all the "c" terms together. The "cs" terems go in the middle.

If you put all the "squared" terms together at the first I would not mark that wrong.


Practice Questions
p.229 - 230
10(i, iv)
#11a, e, h
#12
#14
#15(a,c,e)
#16a
#17