

## Curriculum Outcome

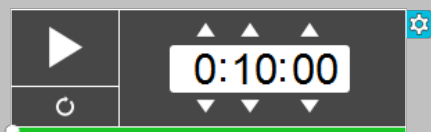
- (PR 5) Demonstrate an understanding of polynomials (limited to of degree less than or equal to 2).
- (PR 6) Model, record and explain the operations of addition and subtraction of polynomial expressions, concretely, pictorially and symbolically (limited to polynomials of degree less than or equal to 2).
- (PR 7) Model, record and explain the operations of multiplication and division of polynomial expressions (limited to polynomials of degree less than or equal to 2) by monomials, concretely, pictorially and symbolically.

**Student Friendly:**  
"Collecting like terms "

# Warm Up Quiz



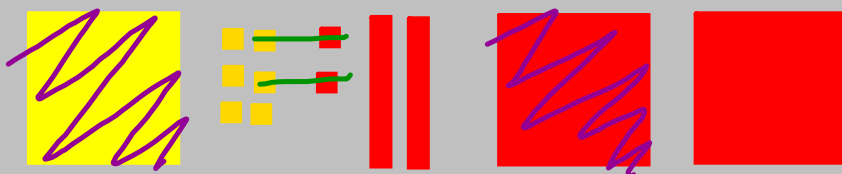
Separate your desks



# Warm Up



Write the simplified polynomial for the following algebra tiles.



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

Collect like terms and show zero pairs

Redraw results:

Simplify the following polynomials

$$3n^2 + 7 - 12 - 5n^2 + 10$$

$$3n^2 - 5n^2 + 7 - 12 + 10$$

$$\boxed{-2n^2 + 5}$$

$$7n^2 - 3n + 12n - 2n^2 + 8$$

$$7n^2 - 2n^2 - 3n + 12n + 8$$

$$5n^2 + 9n + 8$$

$$3x^2y$$

$$2xy$$

$$4xy$$

$$5x^2y$$

$$-8xy^2$$

$$10xy^2$$



# Polynomial Expressions



Like terms are  $-3x^2$  and  $4x^2$   
(same letter with the same numerical exponent)

Unlike Terms are  $-x^2$  and  $x$  or are  $y^2$  and  $t^2$   
(either different letters and/or different numerical exponent)



### Simplified Form

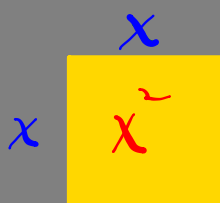
\*fewest algebra tiles possible

\*contains only one term of each degree and no terms with a zero coefficient

Always simplify any polynomial by grouping like terms.

Collect like terms and then simplify the following polynomial

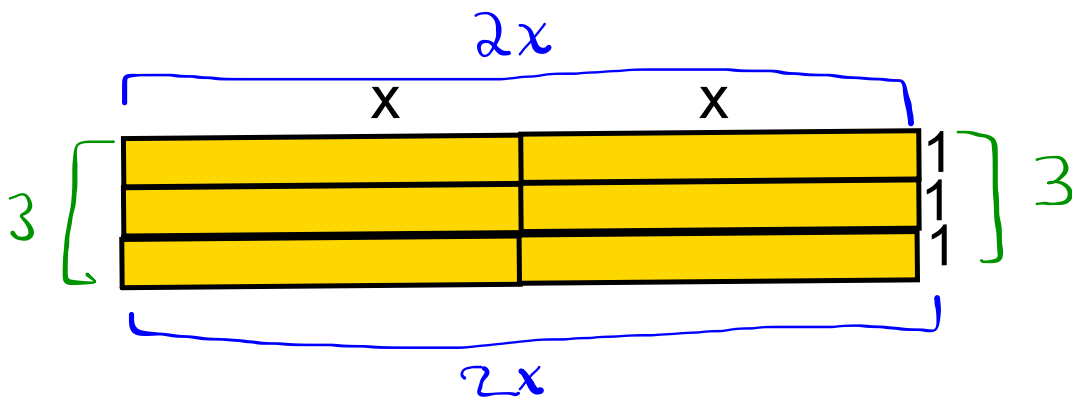
# Area





**Perimeter** - is the distance around an object  
 - to calculate you add the length of each side

Write a polynomial to represent the perimeter of each rectangle.



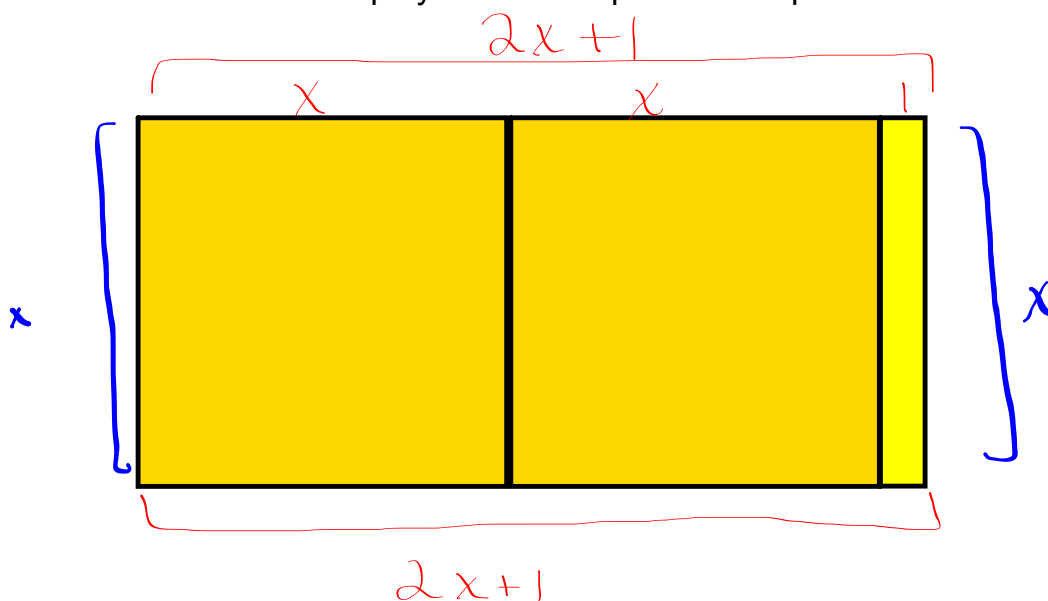
$$P = 2x + 2x + 3 + 3$$

$$P = 4x + 6$$

**Perimeter** - is the distance around an object  
 - to calculate you add the length of each side

Write a polynomial to represent the perimeter of the rectangle.

Example 2) Write a polynomial to represent the perimeter of each rectangle.

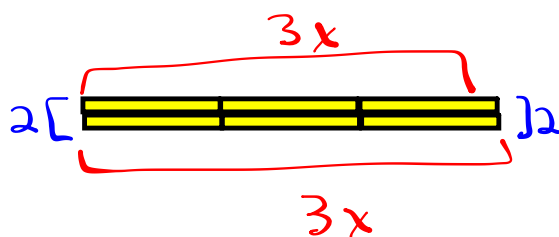
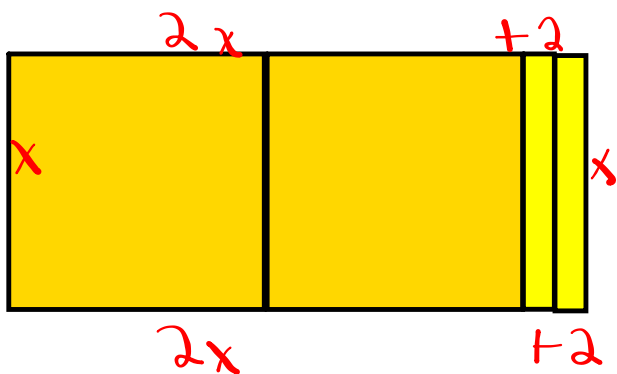


$$P = 2x + 1 + 2x + 1 + x + x$$

$$= 2x + 2x + x + x + 1 + 1$$

$$P = 6x + 2$$

Example 3) Use algebra tile to make the rectangle with perimeter  $6x + 4$



Collect like terms and then simplify

$$-4x^3 + 3 - 3x^2 + 7x^3 - 4x^2 + 6$$

$$-4x^3 + 7x^3 - 3x^2 - 4x^2 + 3 + 6$$

$$3x^3 - 7x^2 + 9$$

# Homework



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# 6 Monday's

#7

#8 Note (Draw out, cancel out zero pairs, redraw answers then write out expression)

#9

# 11 (acf)

#12 acf

#13 acf

#14acf

Tuesday's

Course Outline Grade 9 2010-2011 Second Semester.docx