Distributive Property

Standards

- MCC7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
- MCC7.NS.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
- MCC7.NS.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.

Distributive Property

A creative story approach

The Party!!!

- You are going to your friend's house for a costume party
- You are dressed up as an apple, so you nickname will be *a*.
- Your friend is a banana, so we'll call your friend, *b*.
- Your friends house has walls, and the walls will be the parenthesis: ( ).

- When you get to the house, you are very polite, so you knock and wait for someone to answer the door.

$$a\,(\ \ )$$

- Your friend, the banana, comes to the door, but your friend is not alone!
- Someone dressed up like a cherry is there also! We'll call this person, *c*.
- This is what it looks like:

$$a(b + c)$$

- Of course, your friend answers the door and you are so excited, you have to say "hi" to your friend, and this is what it looks like:

- And once you say hi, the walls of the house go away (only when you are working with variables though). It looks like this:

$$ab + ac$$

- But what if there are more people in the house?
- Don't be rude! Give them a hug or high five as well!

ab + ac + ad + ae + af

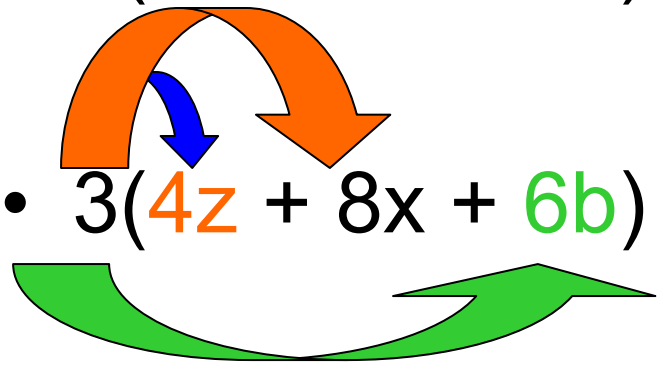
And the walls fall down!

Ok—so let’s see this algebraically ☺

- Use the distributive property and combine the like terms

The 3 has to say hi to every term

- 3(4z + 8x + 6b)



- 3(4z + 8x + 6b)

3(4z) = 3x4 = 12z

3(8x) = 3X8 = 24x

3(6) = 18b

12z + 24x + 18b

$$5(x + 2y)$$

$$5(r - 2) + 2k$$

Distribute & Combine ☺

$$5(r - 2) + 2r$$

$$1 - 3(5x + 2)$$

$$2 - 5(-x - 5)$$

$$x + 5x + 8(x + 2)$$

$$4\,(x + 2) + 3(x + 5)$$

$$2\,(r + 3) + 3\,(r + 7) - 10$$

$$3[\ 9(x + 4) + 2(x + 1)]$$

HW: Practice worksheet

Homework Review

Area and Algebra ☺

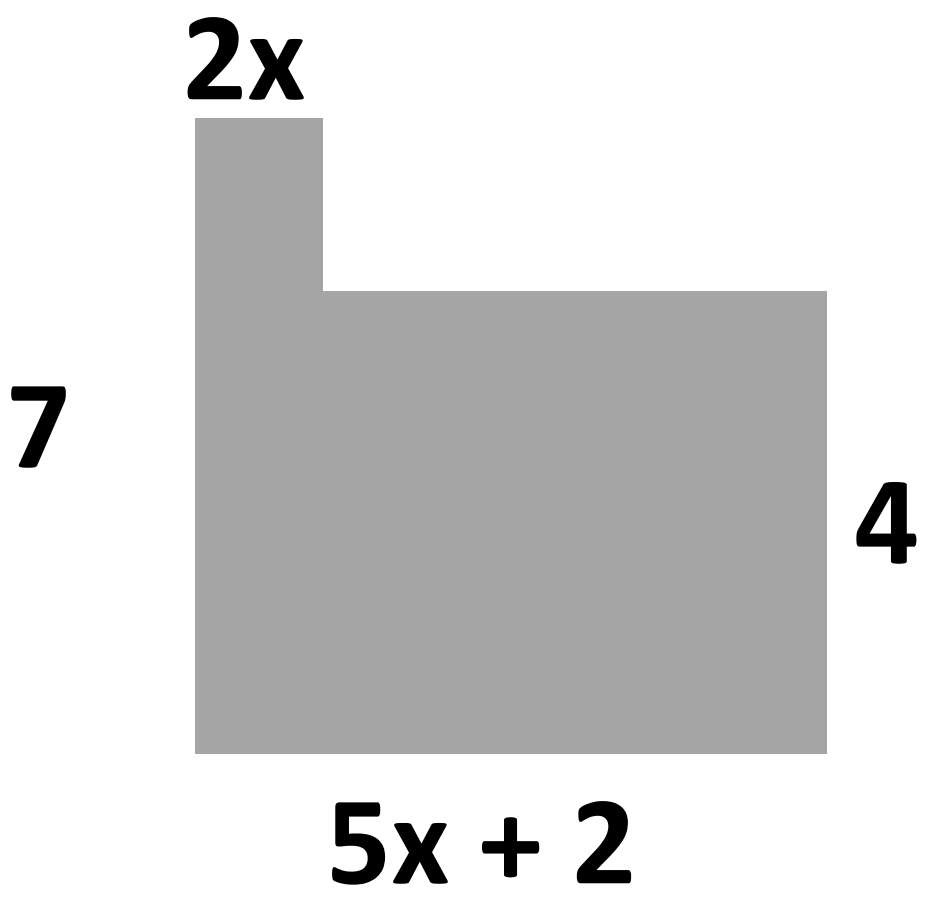
Basic problem no letters

Ex.1

Find the perimeter

Find the area

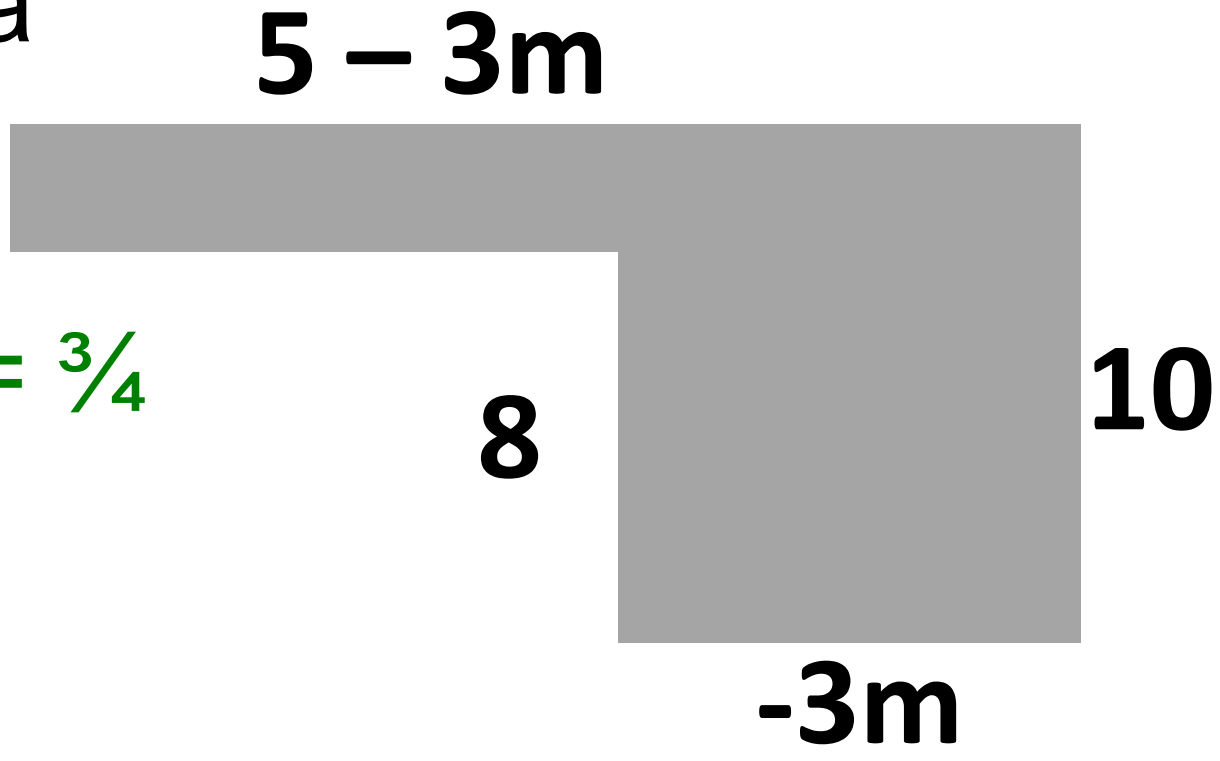
What if x = 4



Ex.2

Find the perimeter

Find the area



What if m = ¾

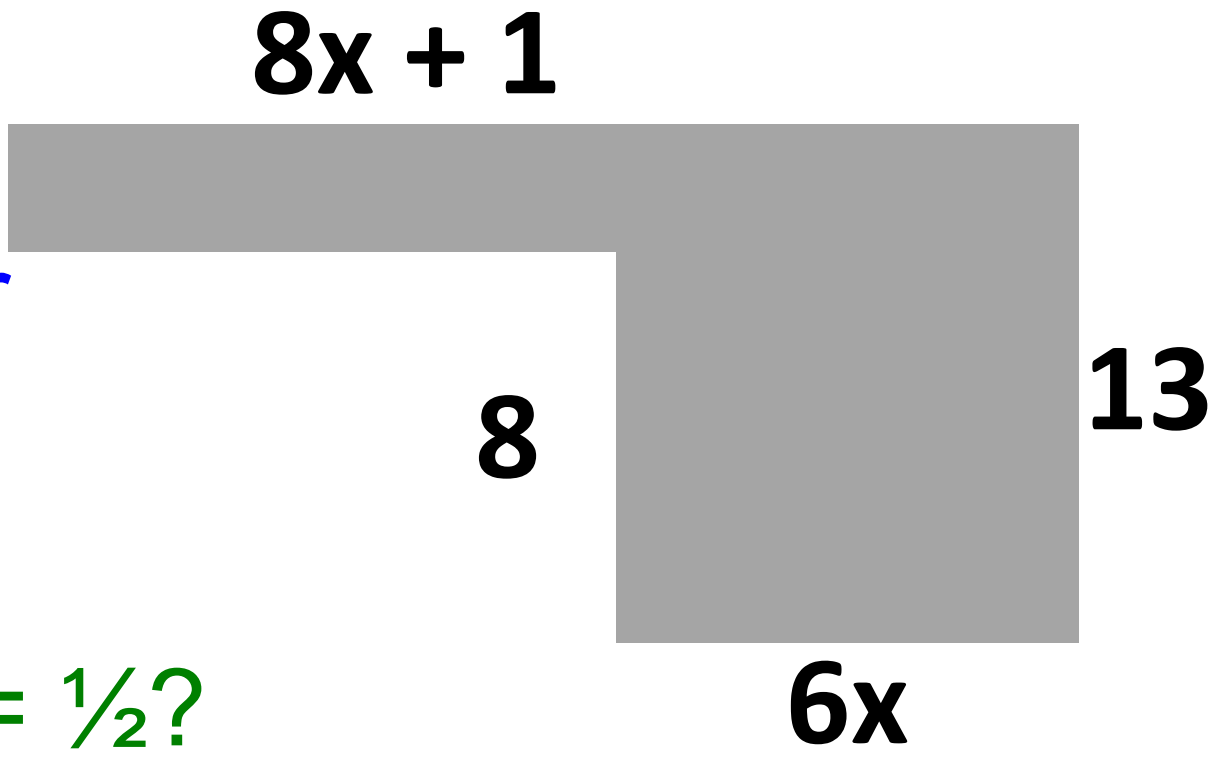
Homework: Area and Algebra

☺

Homework Review

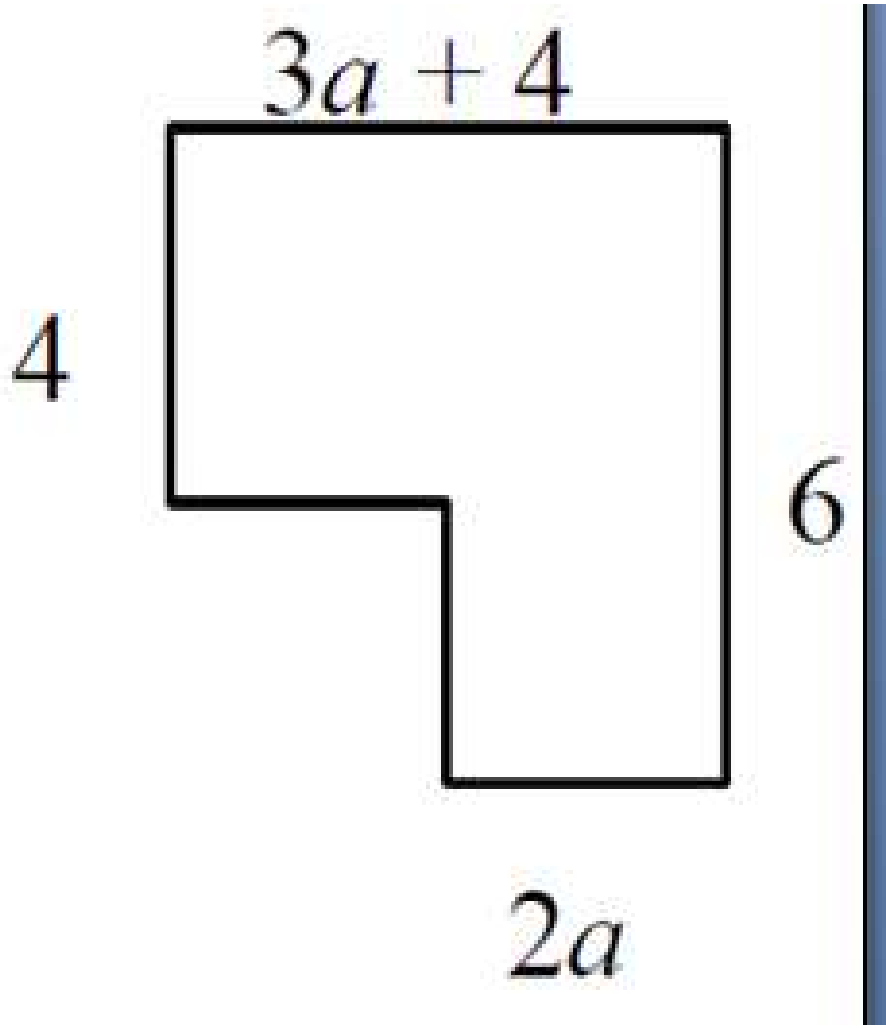
Warm up- put hw in red tray

1. Find the perimeter
2. Find the area
3. What if x = ½?



Hw- review

1. Find an expression for the perimeter of the rectangle. Write your expression in simplified form.
2. What is the perimeter of the rectangle if a = ¾ inch?
3. Find an expression for the area of the rectangle. Write your expression in simplified form.
4. What is the area of the rectangle if a = 1.8 feet?



Class work: Design your own…

- Create an “area and algebra” type problem
- Must be L shaped- six sides
- Must have at least one variable
- 4 values must be given with 2 missing
- Must have 4 problems (Q & A):

  Find perimeter Find Area

  Substitute a fraction Substitute a decimal