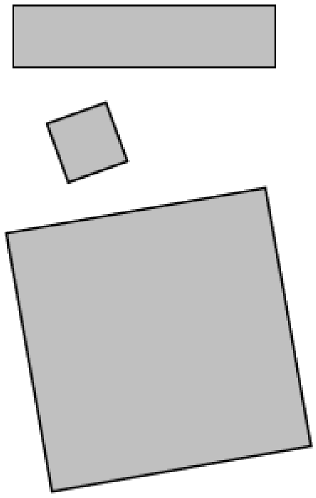
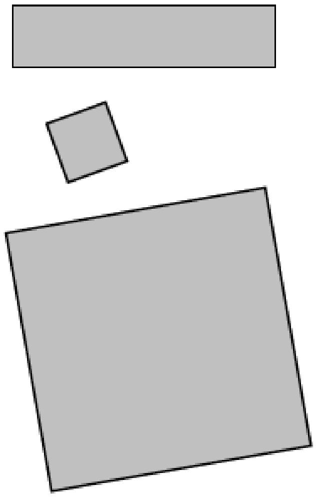
Each table gets 1 bag of algebra tiles.

You get 3 minutes to play with them.

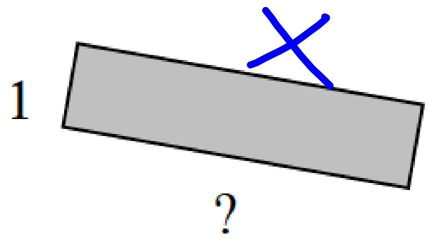


Remove one of each shape from the bag and put it on your desk. **Trace** around each shape on your paper. Look at the different sides of the shapes.

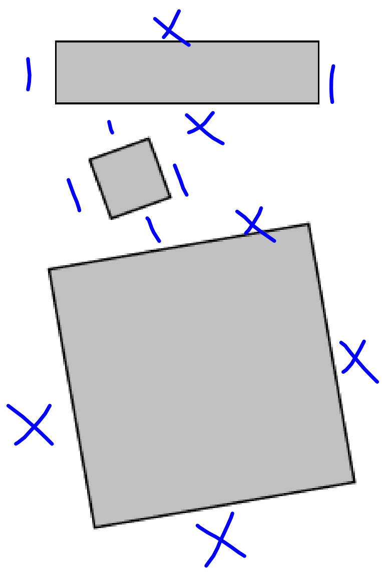


With your team, discuss which shapes have the same side lengths and which ones have different side lengths. Be prepared to share your ideas with the class. On your traced drawings, color-code lengths that are the same.

The tile below has one side length that is exactly one unit long. If the other side length cannot have a numerical value, what can it be called?

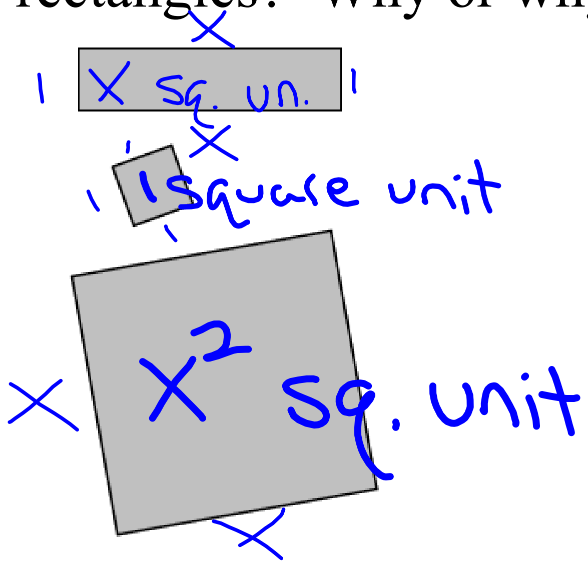


If the unknown length is called “x,” label the side lengths of each of the four algebra tiles you traced.



Find each area and use it to name each tile. Be sure to include the name of the type of units it represents.

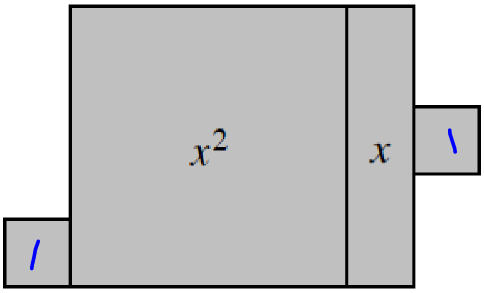
Each type of tile is named for its area. In this course, the smallest square will have a side length of 1 unit, so its area is 1 square unit. This tile will be called "one" or the "unit tile." Can you use the unit tile to find the side lengths of the other rectangles? Why or why not?



$x + x$ $\quad$ $x \cdot x$

$2x$ $\quad$ x^2

Put the tiles pictured below on your table. Then work with your team to write an algebra expression that represents the total area.



Area

$1 + x^2 + x + 1$

$x^2 + x + 1 + 1$

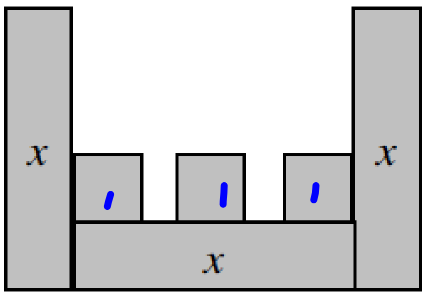
$x^2 + x + 2$

$2x^2 + 2$??

No - don't have 2 sets of x^2.

$3^2 + 3$

Put the tiles pictured below on your table. Then work with your team to write an algebra expression that represents the total area.



$x+x+1+1+1+x$

$x+x+x+1+1+1$

$3x+3$