

Name: _____

Date: _____

**QUADRATIC WORD PROBLEMS
COMMON CORE ALGEBRA I**



Exercise #1: Consider a rectangle whose area is 45 square feet. If we know that the length is one less than twice the width, then we would like to find the dimensions of the rectangle.

- (a) If we represent the width of the rectangle using the variable W , then write an expression for the length of the rectangle, L , in terms of W .
- (b) Set up an equation that could be used to solve for the width, W , based on the area.

(c) Solve the equation to find both dimensions. Why is one of the solutions for W not viable?

Exercise #2: A square has one side increased in length by two inches and an adjacent side decreased in length by two inches. If the resulting rectangle has an area of 60 square inches, what was the area of the original square? First, draw some possible squares and rectangles to see if you can solve by guess-and-check. Then, solve it algebraically.



We can certainly play around with word problems that involve strictly numbers. For example...

Exercise #3: There are two rational numbers that have the following property: when the product of seven less than three times the number with one more than the number is found it is equal to two less than ten times the number. Find the two rational numbers that fit this description.

And, of course, who can forget our work with **consecutive integers** from the linear unit?

Exercise #4: Find all sets of two consecutive integers such that their product is eight less than ten times the smaller integer.

Exercise #5: Brendon claims that the number five has the property that the product of three less than it with one more than it is the same as the three times one less than it. Show that Brendon's claim is true and algebraically find the other number for which this is true.

