Story Problem Pieces   NAME:

The purpose of this worksheet is to practice using algebraic notation to represent real world ideas. For instance, if *w* is the width of a rectangle, and the length is twice the width, give an expression for the length. Some of us have trouble with this. However at the same time, if I told you the width was 5 inches and the length is twice the width, you could tell me the length is "2 times 5" or 10. This worksheet investigates several phrases you might encounter by first using actual numbers and then substituting the variables.

1. Consider a rectangle whose length is twice the width. Complete the table for the various values of length.

Width	Length
5	
10	
15	

Because the length was twice as long as the width, we multiplied the width by 2 to get the corresponding length. So if the width was w *inches, what's the length?*

2. Consider a rectangle whose length is 3 more inches that its width. Complete the table for the various values of length.

Width	Length
7	
12	
20	

Now ask yourself "what did I do to the width to get the length?" (Do you see that you added 3?) So if the width was w *inches, what's the length?*

3. Consider a rectangle whose length is equal to the width squared. Complete the table for the various values of length.

Width	Length
3	
5	
10	

Now ask yourself "what did I do to the widths to get the lengths?" So if the width was w *inches, what's the length?*

4. Consider two consecutive even integers. Remember the set of even integers is {…-4, -2, 0, 2, 4, 6, …}. Complete the table below for the next consecutive even integer.

First even integer	Next consecutive even integer
- 4	
12	
24	

Now ask yourself "what did I do to the first integer to get the next consecutive even integer?" So if I let x *represent the first integer, what is the next consecutive even integer?*

5. Consider the ages of two siblings where the older sibling is 5 years older than the younger. Complete the table for the age of the younger sibling.

Age of older sibling	Age of younger sibling
10	
24	
33	

Now ask yourself "what did I do to the age of the older sibling to get the age of the younger sibling?" So if we let x *represent the age of the older sibling, what is the age of the younger sibling?*

6. Consider two positive numbers where one number is three more than twice the other number. Complete the table for the larger number.

First (smaller) number	Second (larger) number
3	
5	
10	

Now ask yourself "what did I do to the first number to get the second, larger number?" So if we let x *represent the first number, what is the second, larger number?*