Polynomial Floor Plan Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

You and your family are building a new home. Your parents have given you and your two siblings the opportunity to choose your own rooms. However, in order to keep you from fighting over the largest bedroom, you must choose your room before ever stepping foot in the house. Based on the blue print, use your knowledge of polynomials to figure out the size of each bedroom and outsmart your parents!

PART ONE: Find the dimensions of each room. Label any missing dimensions on the blue print. ***(On the floor plan, width is defined as vertical and length is defined as horizontal.)***

1. Find the width of the Kitchen/Dinette Area.
2. Find the length of Bedroom #2.
3. Given the total length of the house is $11x+5$ , find the length of the Kitchen/Dinette Area.
4. Given the width of the house is $6x+5$ , find the width of the living room.

PART TWO: Find the square footage ***(Area).***

1. Write and simplify the polynomial that represents the square footage of Bedroom #2.
2. Write and simplify the polynomial that represents the square footage of Bedroom #3.
3. Write and simplify the polynomial that represents the square footage of Bedroom #4.
4. If $x=5$ feet, what is the square footage of Bedroom #2, #3, and #4?
5. If $x=5$ feet, what is the square footage of the house?
6. What bedroom should you choose and support your decision with facts.

