Math of Finance

Furnishing a Living Space

Purpose: This activity involves redrawing a floor plan to scale on a piece of graph paper. In many cases, a small diagram found in a brochure or on the internet needs to be enlarged so people can plan how to furnish a living space, and how the size of furniture items will fit within the rooms.

Part 1: Redraw the floor plan

1. Your group will be randomly assigned one of the provided floor plans \_\_\_\_
2. Determine the overall dimensions of the living space
	1. Take a rectangular room that provides the dimensions and measure the actual size of one side of the room in inches using a ruler (include fractions)

 \_\_\_\_\_\_ in X \_\_\_\_\_\_\_\_ in

* 1. Calculate the scale factor by:
		1. Convert the same side’s floor plan dimension to inches by multiplying the number of feet by 12 and adding the inches

 (\_\_\_\_\_ ft \* 12) + \_\_\_\_ in = \_\_\_\_\_\_\_\_\_

* + 1. Divide the floor plan dimension in inches by the actual size in inches

 \_\_\_\_\_\_ / \_\_\_\_\_\_\_ = \_\_\_\_\_\_\_

 2.b.i. 2.a.

* + 1. The result is your scale factor \_\_\_\_\_\_
	1. Measure the overall length and width of the floor plan in inches
		1. Length is \_\_\_\_\_ in
		2. Width is \_\_\_\_\_ in
	2. Multiply the overall length and width by the scale factor
		1. Length: \_\_\_\_\_\_ \* \_\_\_\_\_\_ = \_\_\_\_\_\_ in

 2.c.i. 2.b.iii.

* + 1. Width: \_\_\_\_\_\_ \* \_\_\_\_\_\_ = \_\_\_\_\_\_ in

 2.c.ii. 2.b.iii.

1. Determine how many inches each square on the graph paper will represent, making sure the majority of the paper is used.
	1. Count the number of squares on the short side of the paper \_\_\_\_\_\_
	2. Divide the overall width by the number of squares
		1. \_\_\_\_\_ / \_\_\_\_\_ = \_\_\_\_\_

 2.d.ii. 3.a.

* 1. Increase this answer to the next highest whole number \_\_\_\_\_\_\_
	2. This is the inches per square that you will use to draw your floor plan
1. Draw the floor plan on the graph paper using the correct scale
	1. Draw the outside of the floor plan using the inches per square
		1. Length x inches/square \_\_\_\_\_\_\_ x \_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_ squares e 2di 3c
		2. Width x inches/square \_\_\_\_\_\_\_ x \_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_ squares e 2dii 3c
	2. Draw the outlines of each room
		1. Use the same method of measuring and calculating the number of squares for each wall
		2. Make sure you include the closets
		3. Drawing the parts in the kitchen and bathroom are not required