

Name: \_\_\_\_\_

Teacher: \_\_\_\_\_

## M151: Modeling With Geometry Pre-Badge Task

### New Badge Alert!

This task will provide a preview of what we will be learning during the M151 - Modeling with Geometry Badge. You already know so much math, so use this task to share any understanding that you have before we start our learning. You will have a chance to do the same task at the end of the badge to see how your thinking has evolved.

### The Task

Your older sibling has moved out of the house so you are getting a bigger bedroom! Your current bedroom has an area of 144 square feet. You currently have a full size bed (75in L x 54in W) and 2 nightstands.

**QUESTION 1** Create two possible bedroom floor plans each with an area of 144 square feet. Use a sheet of graph paper or technology to create these drawings to scale. Label the dimensions on each drawing.

In the space below, answer this question: Given both options, which bedroom floor plan would you rather have as your bedroom? Why?



## QUESTION 2

- a. On the bedroom floor plan you selected, create a scale drawing of your bed in the location you would put it in that room.
- b. Decide where you would put your nightstands. What is the maximum possible area of each nightstand based on where you want to put them? Explain your reasoning with visual and mathematical justifications.



### QUESTION 3

Your new bedroom has a greater area than your previous bedroom. Your new bedroom has an area of 160 square feet. Even better, you got a bed upgrade! Your sibling left behind their queen-size bed (80in L x 60in W). Create a scale drawing of your new bedroom. Draw the queen-size bed and your nightstands.

What is the current area of the unused floor space? Explain with written/mathematical justifications.



#### QUESTION 4

Now you get to accessorize your new room! Tap into your inner interior designer. Do you want corner shelves, a circular coffee table, or a gaming desk? The choice is yours! Decide which accessories you want to add to your new room.

Add to your room design by doing the following:

1. Research the dimensions of the accessories you want to include. Draw your accessories in the new room. Label the dimensions.
2. Explain how much unused floor space you have left.

