

Writing project for Math 151-007 Fall 2007:

The boss needs carpeting for the new office, but there's a problem. One, he's cheap and/or environmentally conscious, and wishes to minimize the amount of wasted material. Two, no one else in the office admits to knowing any math, and as the youngest person around, you are the lucky person assigned to figure this out.

Carpeting comes in rectangular strips of any length, and you choose one of three widths: 2.5 yards, 1.5 yards, or 1 yard wide. It can also be custom-made in smaller widths. (To simplify the problem, let's ignore the prices, although you can guess that smaller widths are more expensive – at least, when it comes to the labor needed to install the carpeting.)

The boss has provided a sketch of the office, attached.

Your goals: Consider each of the standard widths, and minimize the material wasted. Is it under 20 square feet? If not, what custom-made width would allow us to waste less than 20 square feet? Finally, write a short report, giving your conclusions and justifying them in a way that your boss can understand. (It seems like he hasn't taken calculus recently, if ever.)

First version is due Monday. You will get at least one chance to revise, and depending how quick you are, maybe more than one chance. Your first version should be your best effort, and each subsequent version should be much better than the last: all of my comments should be addressed, carefully and thoughtfully, and then you should proofread, etc. (If I don't think you've put much effort into it, I'll be angry, and I won't put much effort into grading it.)

Your final grade will be an "A" or an "F". Thus, you can't afford to screw around at all.

This is worth 5% of your overall grade. There might be a small bonus for particularly excellent writing projects.

Grading checklist for Math 151 Writing Project.

Clearly (re)state the problem to be solved?

State the answer in a complete sentence which stands on its own?

Clearly state the physical assumptions which underlie the formulas?

Aim its explanations at appropriate audience?

Clearly label diagrams, tables, graphs, or other visual representations of the math?

Define all variables used?

Explain how each formula is derived, or where it can be found?

Give acknowledgment where it is due?

Are spelling, punctuation, & grammar correct?

Is the mathematics correct?

Did the writer solve the problem that was originally asked?