Purpose: To use area, measurements and estimation to determine the cost of tiling.
Outline: You will determine the cost of tiling an area in your home.
Content Objectives: Area, unit conversion, estimation.
Materials Needed: None (calculator optional).
Instructions: Answer the following questions. Show all work.

1. You want to tile the downstairs of your home. The schematic of the area is given below (you do not need to tile the gray area).

2. Determine the area of the large rectangle measuring (20ft by 30ft)
   Note: Area = length × width
   2. 600 sqft

3. Determine the area of the gray area (3ft by 14ft)
   3. 42 sqft

4. By subtracting, determine the area of what is to be tiled
   4. 558 sqft

5. To account for cuts in the tiles, you will need to buy an additional 10% of tile. Determine the total square footage of tile you need to buy.
   5. 613.8 sqft

6. The tile you decided on is an 18x18 inch tile.
   a. How many square inches will one tile cover?
      6a. 324 sqin
   b. Convert this to square feet by dividing by 144
      Note: 144 in² = (12 in)×(12 in) = (1 ft)×(1 ft) = 1 ft²
      6b. 2.25 sqft

7. The tiles come in a box of 15 which costs $20. How many square feet will one box of tile cover?
   7. 33.75 sqft
8. Divide the value found in (5) by the value found in (7) to determine the number of boxes needed for the job. 
   8. 18.19 or 19

9. Each box of tile costs $20
   a. How much money will the tile cost? 
      9a. 380 boxes
   b. What will the tile cost if you include 7.75% sales tax? 
      9b. $409.45

10. It costs $4 per square foot to have the tile installed (this includes the cost of grout and mortar). Find the cost of labor given the square footage from (4) 
    10. $2232

11. Find the total cost of the job (you do not pay tax on labor) 
    11. $2641.45