2021

Floor Plan Assignment in Elementary Mathematics Education

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Note: Show all your work. Pay special attention to units of measurements.

Part 1. Measure the dimensions of each room in your home, including the kitchen, hallway, etc. (if you have multiple levels, choose one level), rounding your measurements to the nearest feet.

    (a) Draw a floor plan, label the sides of each room with your measurements.
    (b) Calculate the area of each room, then find the total area.

Part 2. Measure the dimensions of the kitchen in inches.

    (a) Find the area of the kitchen in square inches.
    (b) Can you find a correlation between the area of the kitchen in square inches and in square feet (from Part 1)?
    (c) In particular: 1 square feet = ? square inches (illustrate your work with a drawing, include detailed calculations).

Part 3. The kitchen needs new tiles.

Option A is a Beige Porcelain Tile, size: 13 in x 13 in, 1 box contains 8 tiles and costs $9.54.

Option B is a Cristal White Ceramic Tile, size: 12 in x 12 in, 1 box contains 10 tiles and costs $9.99.

    (a) Which option is more economical, in general?
    (b) Which option has a better value for your kitchen?
    (c) Did you get the same or different answer for the last 2 questions in parts (a) and (b)?
    (d) In which scenarios do you think the answers to questions in parts (a) and (b) are different? Why?