

Marvelous Meaningful Monthly Math

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Central Area Tech Prep, Mitchell Technical Institute, and Bridges

Architecture and Construction January

Career – Architectural Color Designer

Math Activity

As an architectural color consultant, you're often required to help clients determine how much paint is needed to cover a room.

And that's exactly what you're helping the Hansons do today. They've already picked out the color that they like.

When you were at the Hansons' last weekend, they gave you the builder's plan of the house, which showed the individual size of each room. All together, they've decided to have the 6 rooms on the main level painted. That includes the kitchen, bathroom, living room, den, laundry room and family room.

Mr. Hanson is sitting at the table totaling up the square footage of the 6 rooms. He says they'll need enough paint to cover 1,860 square feet. And because they have decided to paint the rooms in a trendy yet conservative taupe, they don't need to worry about allowing for a color change.

You tell Mr. Hanson that you're going to re-measure the rooms quickly, just to ensure the measurements on the plans were correct. After double-checking each room, you confirm with Mr. Hanson that they will definitely need enough paint to cover 1,860 square feet.

You mention in passing that each gallon of paint covers 400 square feet of space. Mr. Hanson does a quick mental calculation and says you'll need to order between 4 and 5 cans of paint.

Before he rushes off to phone the paint order in, you explain to him that the amount he calculated was wrong. You tell him that 4 or 5 cans of paint doesn't allow for the windows and doors or for the 3 coats needed to cover the existing dark blue walls.

Mr. Hanson offers to measure the doors and windows in each room so you can deduct that amount from the total square footage. However, you insist that won't be necessary as you have a special equation to take care of it.

"What you need to do is automatically deduct 2 walls of space from each room you measure," you tell Mr. Hanson, "and that will allow for the windows and doors. Remember that each gallon of paint covers 400 square feet and you'll need enough to do 3 coats."

"OK, I think I can figure that out," says Mr. Hanson, as he begins to scribble down an equation on a piece of paper.

Do you know what the correct equation is and can you figure out how much paint is needed to cover those 6 rooms?

Name _____ School _____ Teacher _____