Concrete Estimation Application

This assignment is based upon the floor plan for the house described in the set of worksheet drawings found in Module 27106-06 Job Sheet / Worksheet package. It will be helpful to refer back to the floor plan of that set.

The drawing provided with this assignment is a simplified breakdown of the shape of the floor slab. According to the plans the floor slab is 4" thick. This assignment ignores the thickening in the slab where the bearing walls sit.

Notice how the shape of the house has been broken down into three distinctive rectangular shapes. To estimate the amount of concrete needed for the floor of the house the volume of each shape is found and then the three volumes are added together. Your answer should be in cubic feet. Remember to convert the 4" of thickness to a fraction of a foot. Round answers up to the whole cubic foot.

For the sake of this exercise, drop from any dimension inch amounts that are 4" or less. Add another foot for inch amounts of 5" or more. The volume amount will be within 95% accuracy.

After finding the volume of the entire shape, calculate the number of cubic yards of concrete it would take to pour the slab. Obtain a price from a concrete supplier for concrete in your area and calculate how much it would cost to pour the floor slab. You do not have to figure in the tax.

Assume that you could form the perimeter of the floor slab shape with 2 x 4's. Calculate the number of 16' long 2 X 4's that would be needed for the form (hint: Perimeter in feet / 16'). Obtain the price of a 16' long 2 X 4 in your area and calculate how much the wood for the basic floor slab form would cost (remember this figure does not include material for braces or stakes).

Add the two figures together to find how much the floor would cost to pour at a minimum. This price does not include footings, stem walls, and steel reinforcement

Write your answers in the boxes below.

Volume of Rectangle A	Volume of Rectangle B	Volume of Rectangle C
Total Volume of Floor	Amount of Concrete (cu yds)	Cost of 1 yard delivered
Cost of concrete	Perimeter of floor shape	# of 16' 2 x 4's needed
Cost per 16' 2 x 4	Cost of wood for form	Total cost to Pour