Name: Date: Per:

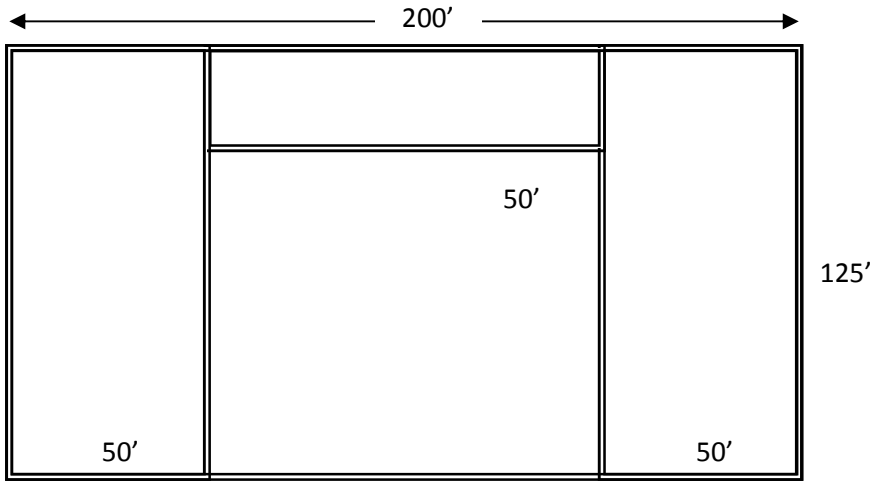
Team Building

Welcome to *G.P. Tech Incorporated*, a company of carpenters, masons, welders, electricians, and general contractors. Today we are going to make a bid on a job to construct a large warehouse building with cement block exterior walls, metal rafters, and traditional wood/drywall interior walls .

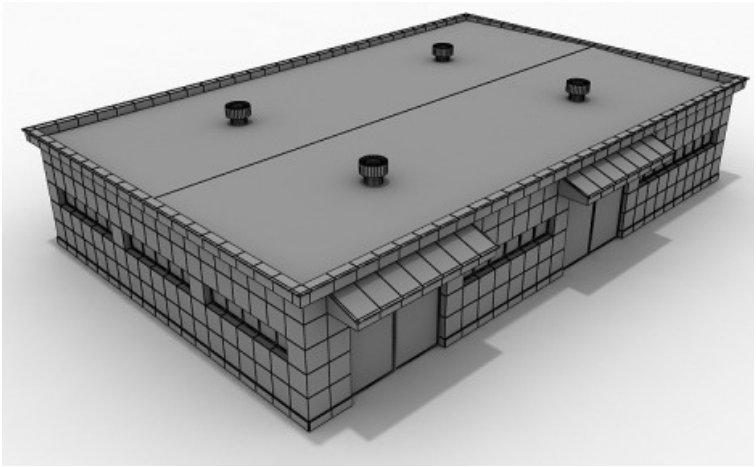
This is a team effort to create an accurate bid (a bid is a price that a contractor gives a customer for a job before they complete the job). If we bid too high, then we will not get the job. If we bid too low, then we may get the job but we will likely lose money on it.

You will be given a trade and a specific task to do. *Note: many of the computations and numbers are simplified and approximated for this activity.* Report the cost for materials and labor to the general contractor upon completing your calculations.

Basic Floorplan:



Wall height = 12’



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Carpenters:

- Your job is to calculate the cost of materials and labor to build the frame of the interior walls and to hang all of the doors.
- It takes approximately 5 minutes per foot to build the frame of a wall.
- Doors take 1 hour to install.
- Exterior doors cost $300. Interior doors cost $150.
- Hourly Wage: $20

Interior Walls

1. Calculate the total length of interior walls to be built. _____
2. Calculate the cost of the 2"x4"x12" boards that we will use to frame the walls:
   a. Horzontal Boards (plates): There are three horizontal boards in a wall frame (the sole plate on bottom and two top plates on top).
   Multiply the total interior wall length by 3 to find the total length needed for horizontal plates.

      Total length for horizontal boards=_____

      Number of 12 foot boards needed (divide length by 12) = _____

   b. Vertical boards (studs): Each wall will have vertical boards (called studs) spaced 2 feet apart with studs on each end (see picture above). The wall will be 12 feet tall, so the studs will need to be 12 feet long (then trimmed a little).

      Number of vertical studs needed= _____

   c. Total number of 2"x4"x12' boards needed=_____

   d. Get price of 2"x4"x12' boards from the building supply: _____ per board.

3. Interior Wall Costs:
   a. Material costs for interior walls: _____

   b. Labor cost for interior walls: _____

Doors

4. Ask the General Contractor how many doors are needed._____
5. Door Costs:
   a. Material costs for all doors: _____

   b. Labor cost for all doors: _____
5. **Total cost of materials (doors and boards) = _____**

6. **Total cost for labor: _____**