

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Per: \_\_\_\_\_

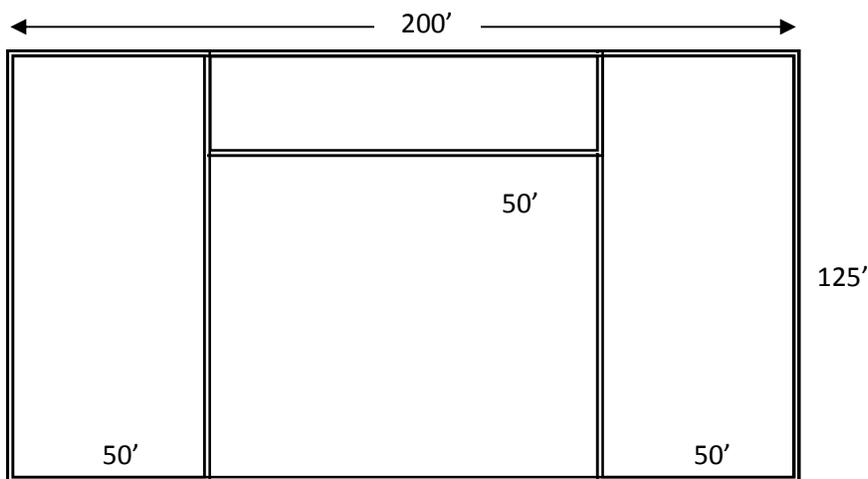
# Team Building

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 .

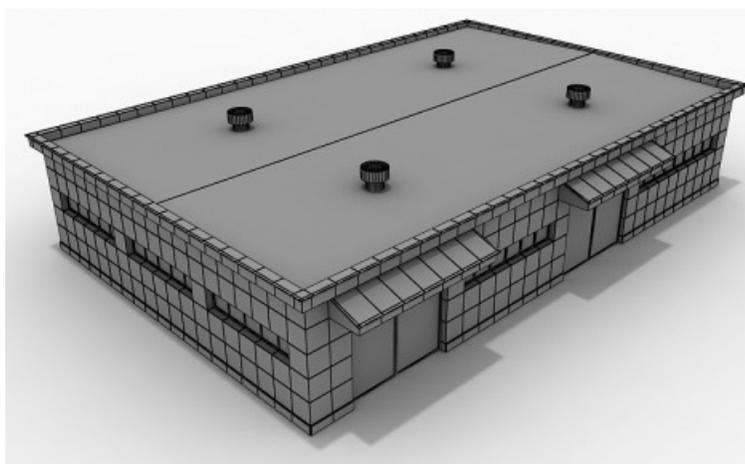
This is a team effort to create an accurate bid (a bid is a price that a contractor gives a customer for a job before they complete the job). If we bid too high, then we will not get the job. If we bid too low, then we may get the job but we will likely lose money on it.

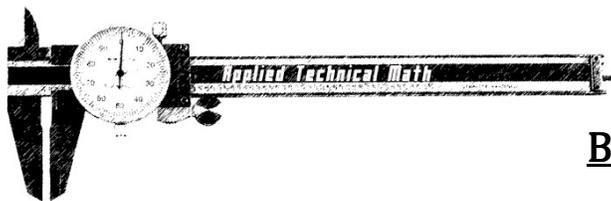
You will be given a trade and a specific task to do. *Note: many of the computations and numbers are simplified and approximated for this activity.* Report the cost for materials and labor to the general contractor upon completing your calculations.

## Basic Floorplan:



Wall height = 12'





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## Brick Masons:

- Your job will be to lay the foundation and construct the exterior walls with cinder blocks
- The concrete and rebar for the foundation will cost approximately \$100 for each cubic foot.
- The foundation requires .1 hours of labor per *square foot* of flooring.
- The exterior walls will be made out of 8"x8"x16" cement cinderblocks which covers 1 square foot of wall with mortar.
- On average, each block requires .1 hour to transport, cut, and lay the block.
- Hourly wage: \$20.



### Foundation

1. Find the area of the building in square feet: \_\_\_\_\_
2. Multiply this by the thickness of the foundation  
(Ask the *general contractor* for the thickness needed for the slab): \_\_\_\_\_
3. Divide this number by 27 cubic feet to find the number of "yards" of concrete you need:  
\_\_\_\_\_ yards

4. Foundation Costs:
  - a. Material costs for all foundation:  
\_\_\_\_\_
  - b. Labor cost for foundation:  
\_\_\_\_\_



### Block Walls

1. Calculate the total *linear feet* (a.k.a perimeter) for the exterior walls: \_\_\_\_\_
2. Calculate the area of all the walls by multiplying the perimeter by the height. : \_\_\_\_\_
3. Get the number of exterior doors from a *General Contractor*: \_\_\_\_\_
4. For each door, subtract 18 square feet from the total area : \_\_\_\_\_
5. How many blocks do you need for the exterior walls? \_\_\_\_\_
6. Find cost per block at the building supply: \_\_\_\_\_
7. Block wall costs:
  - a. Material costs for wall: \_\_\_\_\_
  - b. Labor cost for wall: \_\_\_\_\_
8. **Total cost of materials (foundation and walls) =** \_\_\_\_\_
9. **Total cost for labor:** \_\_\_\_\_