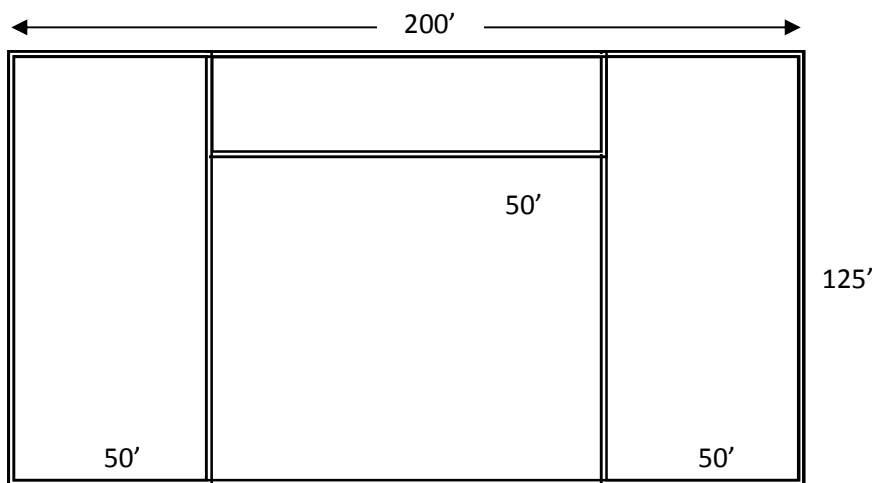# Team Building

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 .
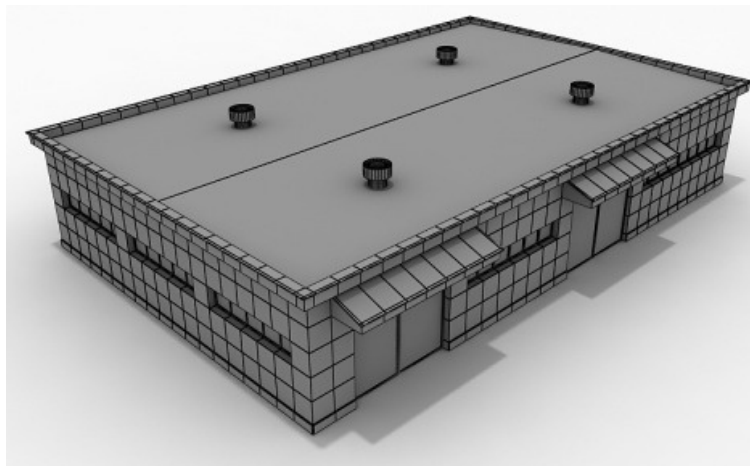
This is a team effort to create an accurate bid (a bid is a price that a contractor gives a customer for a job before they complete the job). If we bid too high, then we will not get the job. If we bid too low, then we may get the job but we will likely lose money on it.
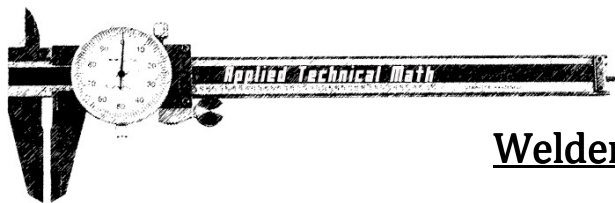
You will be given a trade and a specific task to do. *Note: many of the computations and numbers are simplified and approximated for this activity.* Report the cost for materials and labor to the general contractor upon completing your calculations.

Basic Floorplan:

Wall height = 12'

Welders/Metal-workers:

You will need to calculate the costs of the metal roof trusses.

- One roof truss will be 125 feet long,
- One roof truss uses 500 feet of Steel I-Beam metal
- One roof truss will take 40 labor hours to build and install.
- There will be no trusses directly over the walls.
- Roofing material costs $15 per square foot and requires .1 hour per square foot.
- *Welders will get paid $18 per hour* (a good wage for a welder)

Trusses:

1. *Ask the General Contractor* what spacing is needed for the roof trusses. _____

2. Figure out how many trusses you need for the building. _____

3. How many total feet of Steel do you need for all the trusses? _____

4. Get the price of Steel I-Beam metal from the Building Supply: _____ per foot

5. Cost of material for one roof truss (use #3 and #4): _____
6. Truss Costs:
   a. Material costs for trusses: _____

   b. Labor cost for trusses: _____

Roofing

7. Figure out the area of the roof in square feet: _____

8. Roofing Costs:
   a. Material costs for roofing: _____

   b. Labor cost for roofing: _____

9. **Total cost of materials (trusses and roofing) : _____**

10. **Total cost for labor (trusses and roofing): _____**