

# Additional Lessons

Credit - Brett Tiffen from Mossbank School

## Floor Plan Assignment

What is a floor plan? A floor plan is a scale diagram of the arrangement of rooms in one story of a building. Below is a floor plan of a bungalow house. Look at the floor plan and then answer the following questions.



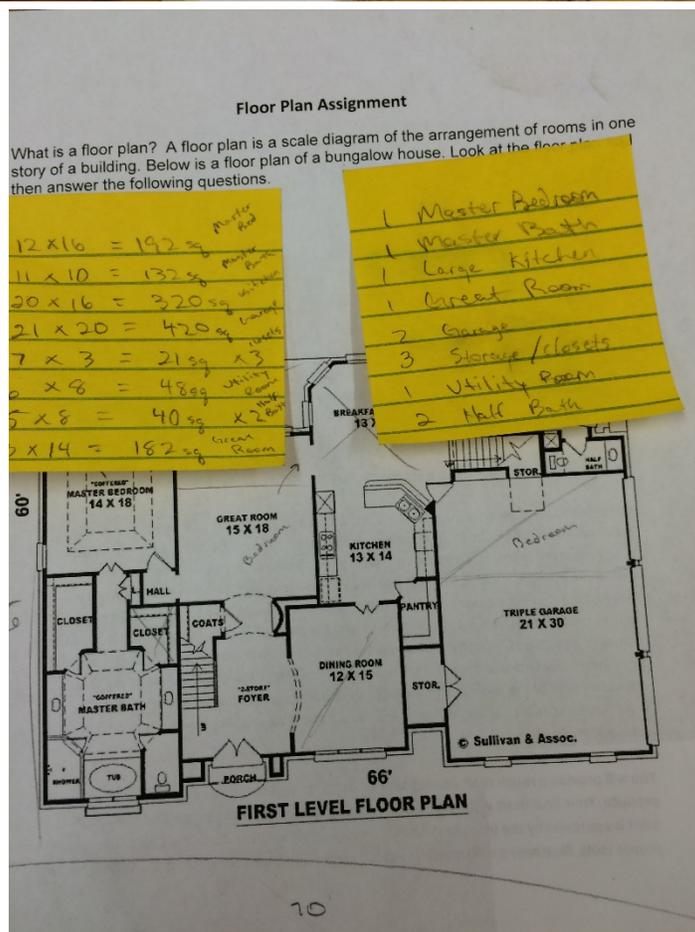
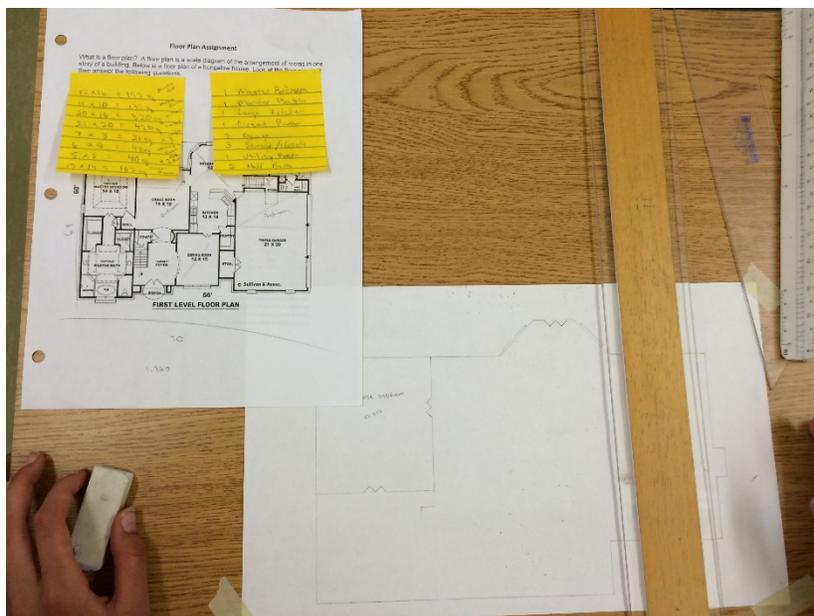
**Questions: (11)**

1. What is the square footage of this house?
2. How many bedrooms are on the first level of this house?
3. What is the square footage of the following rooms:
  - Master bedroom
  - Dining room
  - Garage
  - Great room
  - Kitchen
  - Hearth room
  - Utility room
4. According to building code you need to be at least 4 feet from the right and left property line. What is the minimum lot size that you could build this house on?
5. The cost to build a new home now is approximately \$220.00 per square foot. What would be a price estimate to build this house?

**Major assignment (100) Due date:**

Using the above floor plan as a reference, draw a floor plan of a house that you would like to build. When starting to build anything you need to take into consideration what you want in your house. For example, do you want a big kitchen, 3 bedrooms, a dining room, a master bathroom, upstairs laundry, etc. You also need to take into consideration cost, lot size and making sure there is access to qualified builders in your area. With your floor plan you need to include the following: the lot size, where you are building, what your occupation will be, and the names of 2 builders or construction companies in the area you are building in. Each room must be labelled (single stroke gothic), each room must have the square footage (note the total square footage of the rooms cannot exceed the total square footage of the house), doors, windows, sinks toilets, stove, fridge, stairs, all must be drawn in. The house cannot exceed 2200 square feet.

You will provide a rough draft for this assignment. This should take no more than 2 classes to produce. Your final draft will be on a larger piece of paper and will be provided once your rough draft is approved by the instructor. Both the rough draft and final copy must be drawn with proper tools. Neatness and attention to detail are an important component of this assignment.



## House Framing Assignment

### PAA 9/10

#### House Framing Assignment

Answer the following questions with in your group:

1. What is the distance between studs according to the building code? What does the term “on centre” mean? **16 inches / distance from center of one stud to the center of the other stud.**
2. What is the standard height of walls when framing a house? **(8 feet)**
3. If you go over 10 feet in height when building a wall, what do you have to do? **You need to have bracing in bewtween each stud at 1/ 2 the height of the wall.**
4. What does the term “RO” refer to when building a house? Rough opening – **size of the opening of a window or door before it goes in.**
5. What are the standard sizes of entrance doors for a house? (there are 3) **30 x 80, 32 x80 and 36 x 80**
6. What thickness of sheeting is used for walls when framing a house? **3/8 or 7/16**
7. What thickness of sheeting is used for the roof when framing a house? **5/8 or 3/4**
8. What is the purpose of house wrap on a house? How is it applied? **It is used to cover the bare sheeting. It allows the sheeting to breathe in case water gets behind it. Prevents mold. Applied by staples and tuck tape.**
9. What is blue skin? Where is it applied? **This is a waterproof membrane that goes on the basement walls**
10. What is tuct tape and what is it used for? **This is used to tape seems on house wrap or vapor barrier. Its water proof and seals against drafts.**
11. What are “H” clips? **Clips that go in between sheets on a roof so that the middle does not sag down.**
12. What are roof trusses? What is their job? **These are the structural part of the roof. Takes the weight of the roof and transfers it to the outside walls.**
13. What stamp of approval do roof trusses need on them? **An engineers stamp**
14. What does LVL mean? **Laminated veneer – this is thin strands of wood glued together to make structural beams for houses.**
15. What is a “header”? **This is a 2x10 piece of lumber that goes across the rough opening of a window. It transfers the weight of the roof to the outside studs.**
16. What is a top plate? **This is a double plate of wood on the wall top that the top of the studs attach to.**
17. What is a bottom plate? **This is a single plate of wood that the studs attach to at the bottom of the walls**
18. What is a king stud? **This is a full length stud on the outside of a rough opening.**

19. What is a cripple? This is a cut stud that supports the window header or door header.
  20. What is a window sill plate? This is the bottom plate of a window rough opening that the window sits on.
  21. What is a jack stud? This the same as a cripple stud.
  22. What is rebar? These are steel rods that go into concrete to give it more strength
  23. What are footings? These are concrete slabs that the basement sits on.
  24. How big do footings have to be for an average size residential home? They need to be 9 inches high, 18 inches wide
  25. What is a grade beam? This is a concrete wall that is 2 feet high. Walls sit on top of it.
  26. What are pilings? Cylinder shaped holes in the ground filled with concrete and rebar to support a structure.
  27. When are pilings used in home construction? When ground is unstable or if you are attaching another building to a home.
  28. How deep do pilings have to be when they are under a grade beam? They need to be 12 to 18 feet.
  29. What is weeping tile and what is the purpose of weeping tile? Weeping tile is a pipe that has holes in it and it is used on the outside of basement walls to prevent water from getting in.
  30. Can a wood basement have weeping tile? If yes how is it connected to the sump pit? If no, what is used instead of weeping tile? No. They must use pipes inside the footings that drain to a sump pit.
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1. How many inches are there in one foot? 12
  2. How many feet are there in one yard? 3
  3. What scale is used when measuring in construction? 16th
  4. What is the actual size of a 2x4? Why is this so?  $1\frac{1}{2} \times 3\frac{1}{2}$  It starts out 2 x 4 but when it is finished being put through the planer it is no longer 2 x 4
  5. What is the square footage of the following buildings:
    - $25 \times 30 = 750$
    - $16 \times 20 = 320$
    - $32 \times 54 = 1728$
    - $20 \times 20 = 400$

6. Using the following formula ( $a^2 + b^2 = c^2$ ) find the diagonal distance of each of the above square footages.

39.05

25.61

62.77

28.28

7. If I wanted to make a wall 9 feet high, and I needed one 2 x 6 as a bottom plate and 2 2x6's as a top plate, how long (in inches) will my wall studs have to be?

103 ½ inches

## PAA Occupations Assignment

### PAA Occupational Clusters – Trades Occupations

There are many jobs, occupations, and careers for young people graduating from high school. Pick five trade-related occupations that you find interesting and research the following information:

*Note: Please use the Career Cruising website to find your answers.*

1. What type of schooling is needed to be the occupation? (1 x 5)
2. Where can you take the training? Provide 2 places. (2x5)
3. What is the average salary for this type of job? (1x5)
4. What is the job market like for this job? Is there lots of work or very little opportunity to get a job in this field? (1 x 5)
5. Select a job you would like to have. This does not have to be one of the ones you listed above and it does not have to be a trade related job. Find the following information out about the job that is listed above. (5)