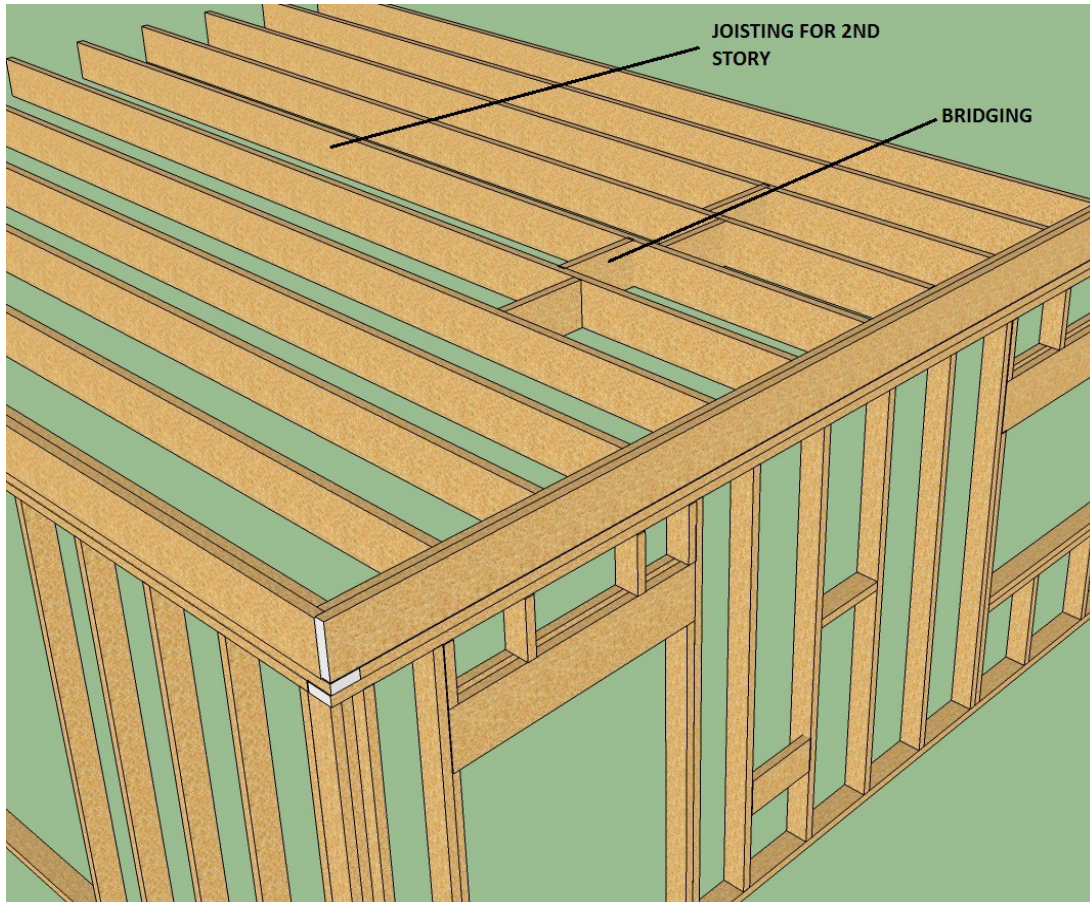
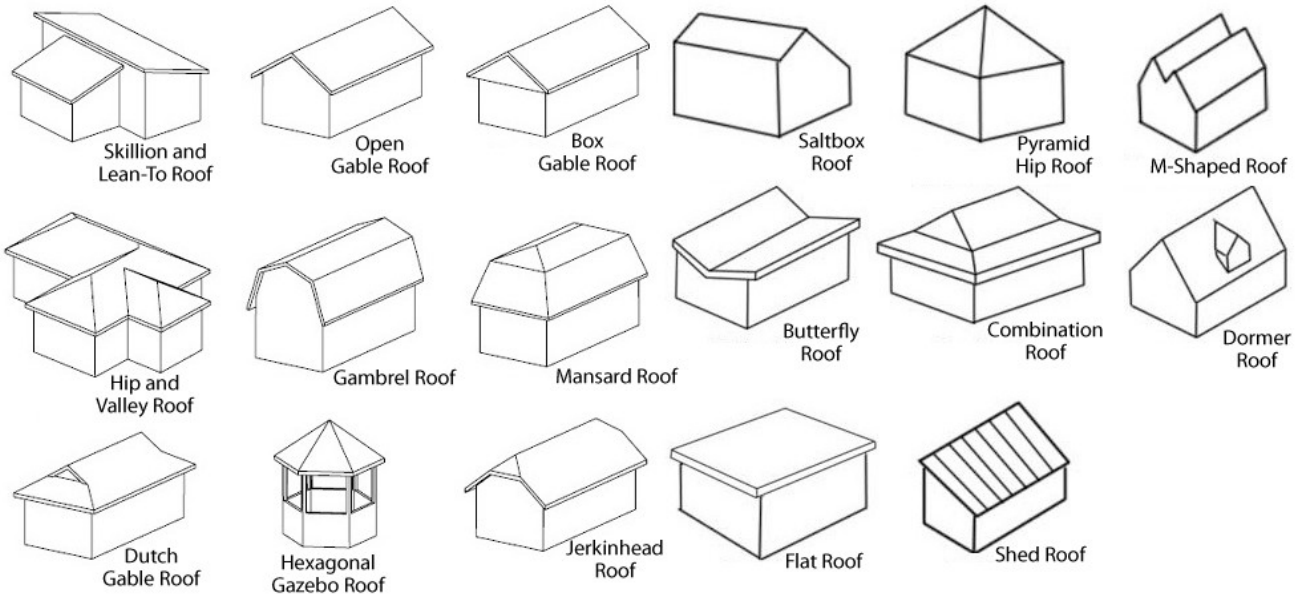


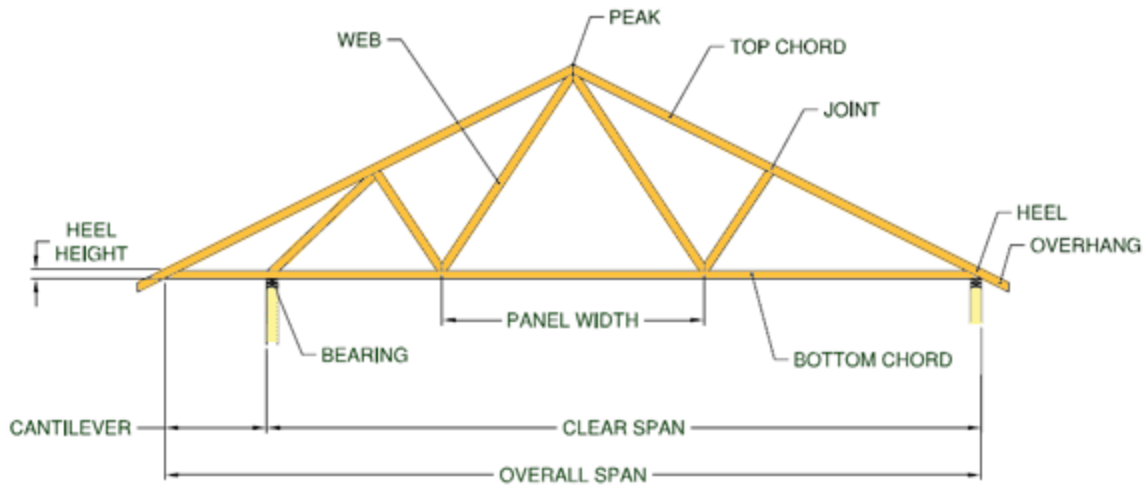
The above style of framing is called "platform" or western framing. There were many types of framing systems in the past however we mainly use platform framing today. Balloon framing is an example of another type of framing system that is still used sometimes today. It incorporates a multistory wall stud, often times this is added onto the outside of a buildings standard framing. It's contemporary use is for two story walls with stone veneer where platform framing might shift at the second story. Balloon framed walls are a solid construction and are a significant deterrent to cracking of rigid masonry surface material such as a veneer. Below is the second story joist with some bridging installed. Bridging will need to run the full length. Also notice the tops of the headers. Those are double 2x8 with ½ plywood in between them.



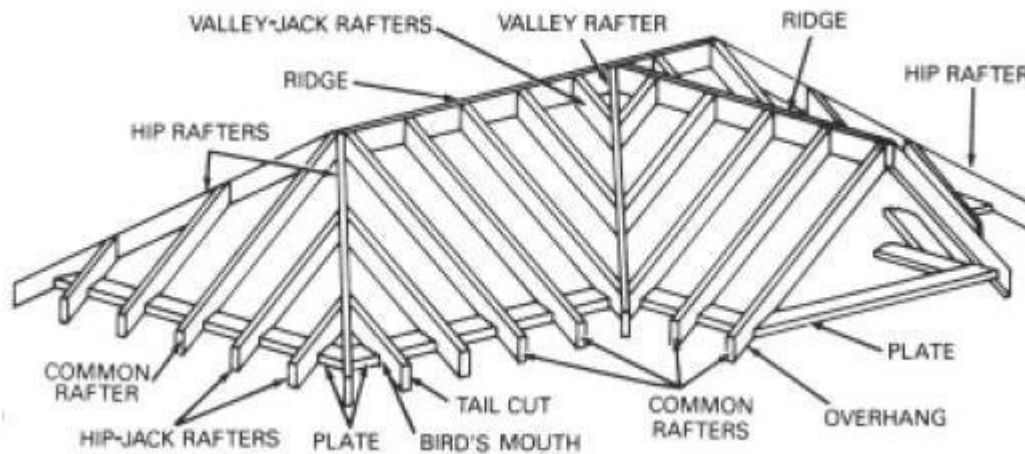
Roof framing is done with either rafters or a truss system. Rafters are framed on site with dimensional lumber and trusses are engineered wood products designed by a factory. Currently many contractors use truss system because they can be pre-ordered and installed quickly. There are many different types of roof shapes each with their own name. Hip and Valley is very common while butterfly is almost never used.



Here is an inside view of a truss system. The truss system uses triangles to create a rigid structure.



Here is a list of the features on a roof framing plan.



This concludes framing. You will not be asked to draw these member only to recognize their names and purpose. Also you do not need to understand the exact sizes needed for each opening because these would be custom designed for each job. You merely need to understand why the sizes need to change and not how much. The size of a wood framing member is determined by the distance it spans, the spacing of each framing member from each other, the load factors and the quality of the wood itself.

Some very important general notes

Most walls are 2x4 at 16" on center. This is the most common but walls can also be 2x6 or 2x8 and they can have studs spaced at 12", 16" or 24".

When talking about the structure weight bearing capacity You will hear two terms, dead load and live load. Dead load is the weight of the building itself and live load is the contents measured in weight per square foot. A live/dead load might be 40/10 which is 40lbs per square foot of live load and 10lbs per square foot of dead load. This would be appropriate for a typical home. A public high rise might be 150/25. These loads are figured to be spread out uniformly when making calculations.

Because stud bays are a square shape under enough force they can be folded in parallelograms. In the example below you see shear forcing acting on the end of a wall. Below that is a single stud bay and one which is bent by shear force. In order to counteract shear force shear panels, which are a structural plywood are attached onto the surface and nailed in place on each stud every 4 inches to prevent the stud bays from changing shape.