How to Draw a Pitched Roof—Advanced
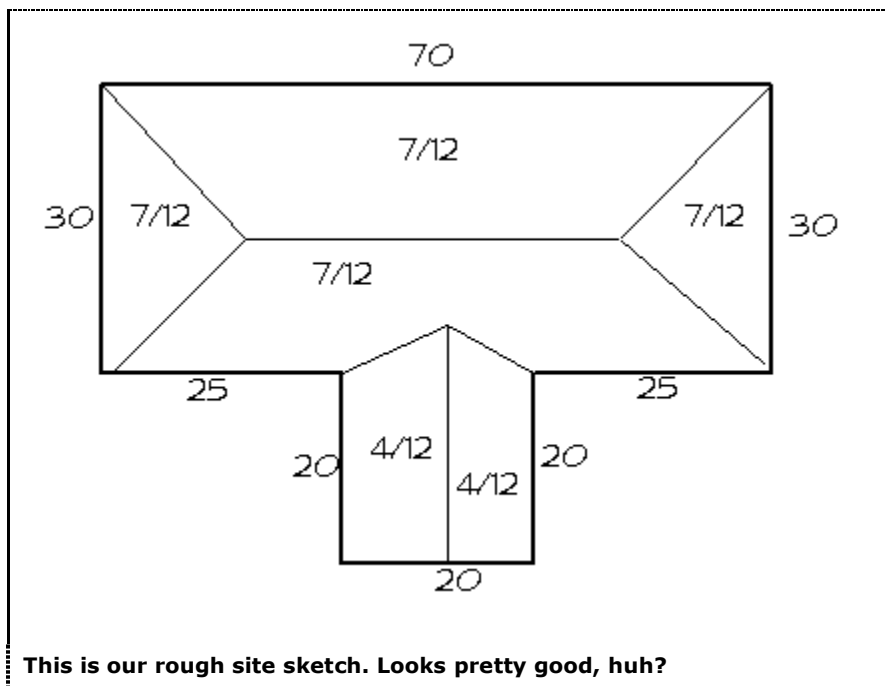
Hint:	**This tutorial explains how to draw from site measured dimensions, but by far the easiest way to draw an existing roof is from a satellite image. Doing so requires our Digitizer module for RoofCAD. To see how it works try our Satellite Tutorials under the Help|Tutorials & Movies menu option.**

In this tutorial we will take you through the steps of drawing a roof that has more than one pitch.

If you have not already, you should read "How to Draw a Roof Section Outline" in Section 25, Basic Flat Roof Tutorial and Section 27, Basic Pitched Roof Tutorial.

Hint:	**We HIGHLY recommend you read Section 31; Advanced Pitched Roof Topics. It will explain how to identify pitched roof sections. This tutorial has only one section, but you will also need to understand how to handle facilities with multiple pitched roof sections.**

We will be drawing the roof sketched below:

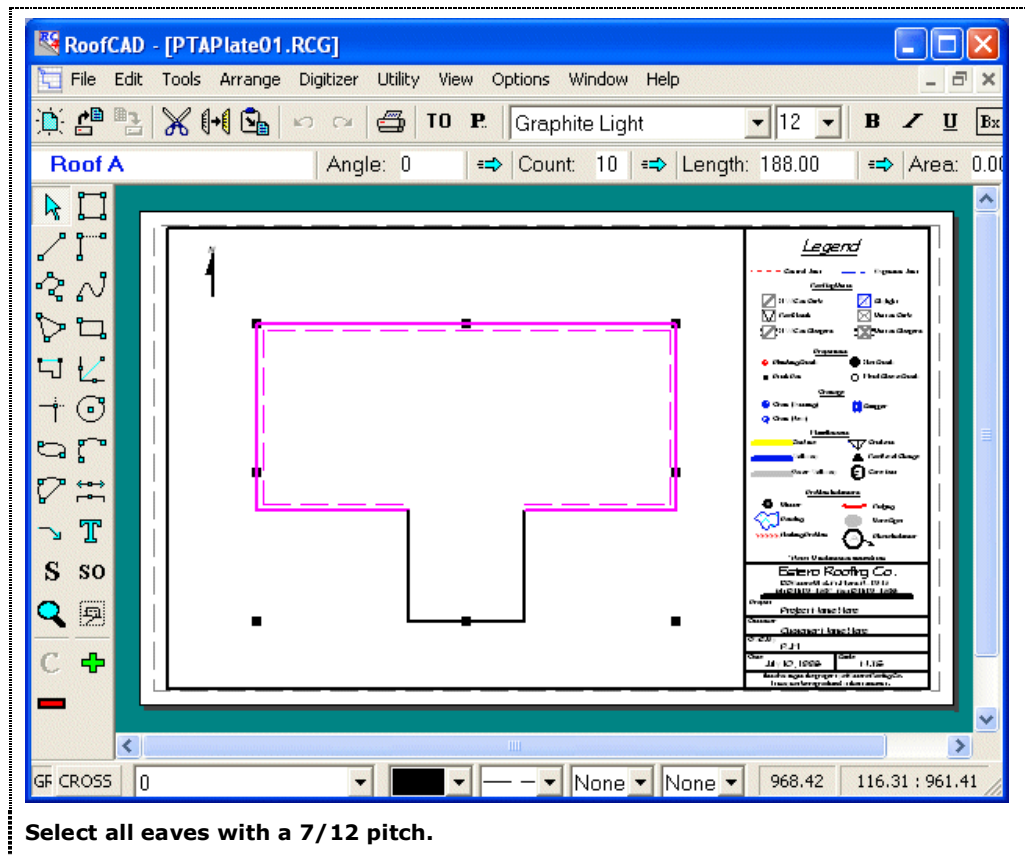**This is our rough site sketch. Looks pretty good, huh?**

We will use an 8x14 template, and a scale of 1/10. We also know that the overhang on this roof is 1 foot. Drawing a roof with more than one pitch is similar to drawing a basic pitched roof, with one important difference--in order to get an accurate Pitched Roof area on the Takeoff Record, we must

outline each roof plane individually. Obviously, we can't do that until after we have drawn in the hips, valleys, and ridges. The first step is to draw the roof outline.

Expand ***Pitched Roof*** in the Smart Object Browser and click Pitched Roof. Draw the outline like we did in the Basic Pitched Roof tutorial.

After you have finished drawing the footprint, select all the eaves that have the 7/12 pitch as in the above illustration. Then expand the Pitched Perimeter section of the Smart Object Browser and click on the Eave Smart Object. Enter a Pitch of 7 and an Overhang of 1 and click OK.
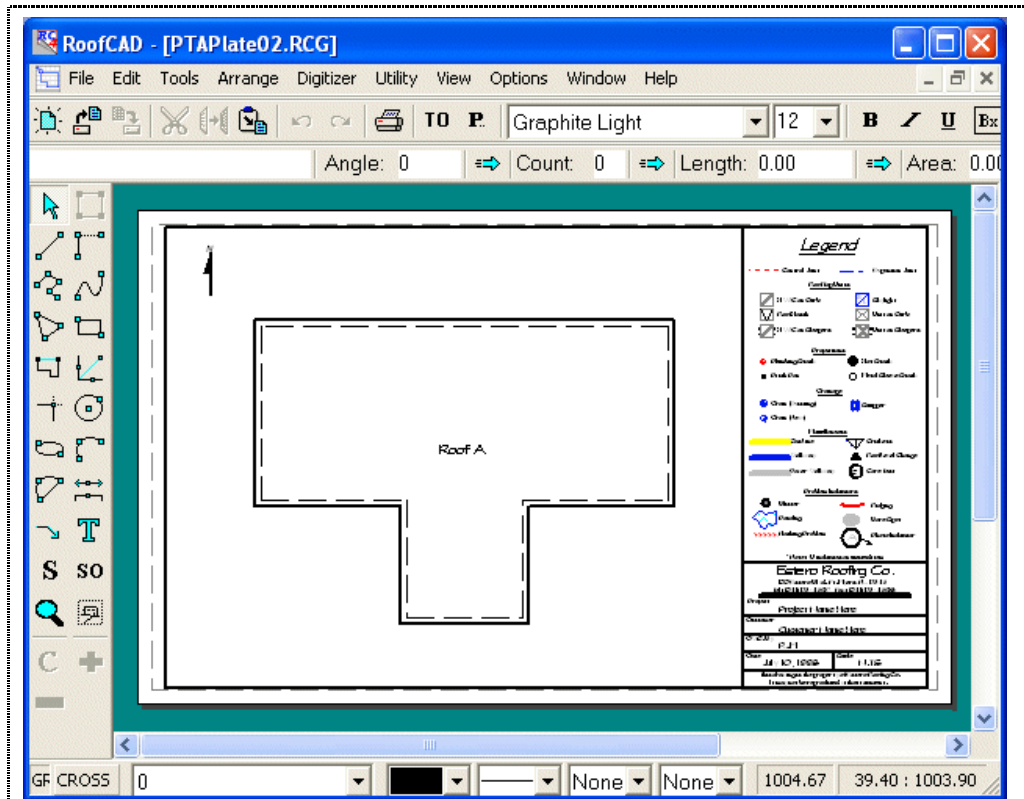

Select all eaves with a 7/12 pitch.

Press Esc to deselect everything.

Select the eaves with a 4/12 pitch, and click on the Eave Smart Object in the Browser, entering a Pitch of 4 and an Overhang of 1.
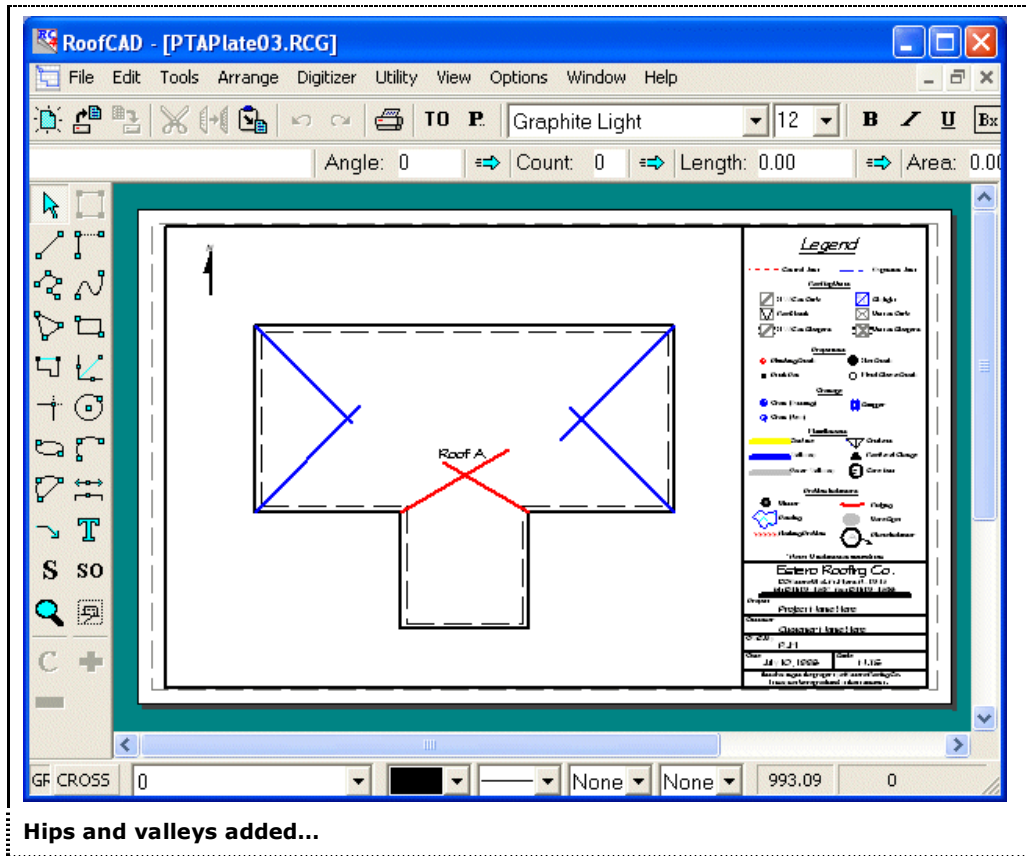
Press Esc to deselect everything.

Select the 4/12 rake edge, then click on the Rake Edge Smart Object in the Browser, entering a Pitch of 4 and an Overhang of 1. Press Esc to deselect everything. Your drawing should now look something like this:
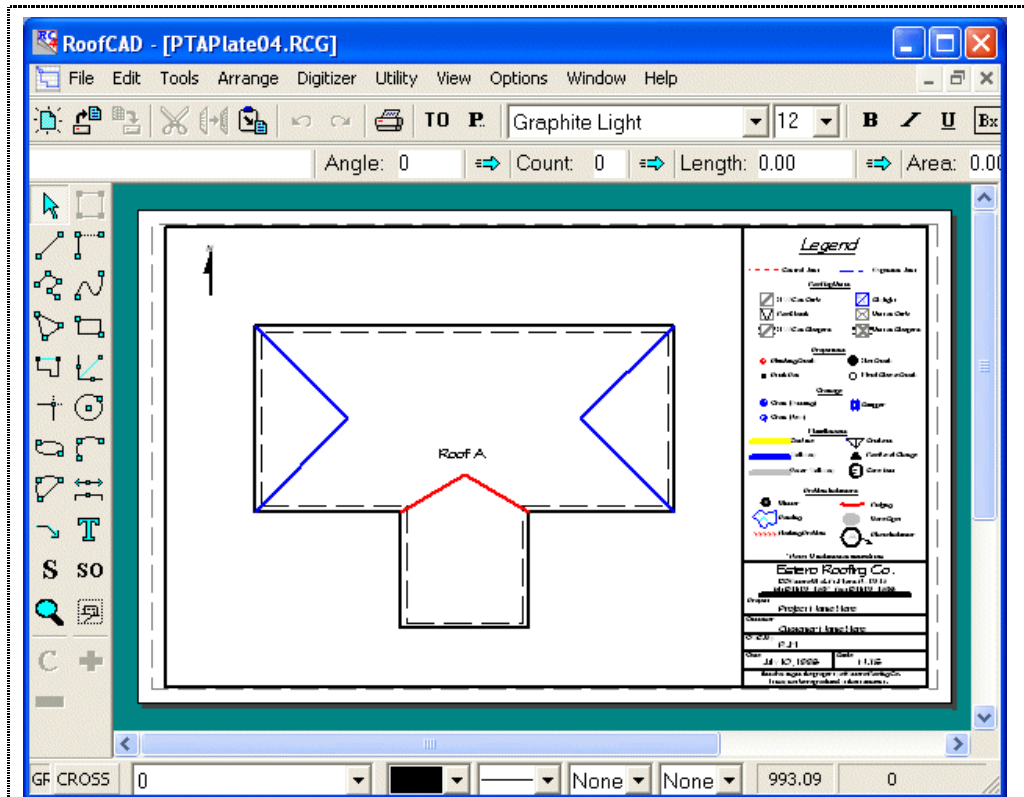
All eaves have been entered now.

Next, we will draw in the hips and valleys. Select the Hip Smart Object from the Browser. With the mouse, click on two adjoining eaves, then click when the hip RoofCAD draws is extended in the correct direction. Repeat this process for all of the hips. Next, select the Valley Smart Object from the Browser and repeat the above process for each of the valleys. Your drawing should now look something like this:
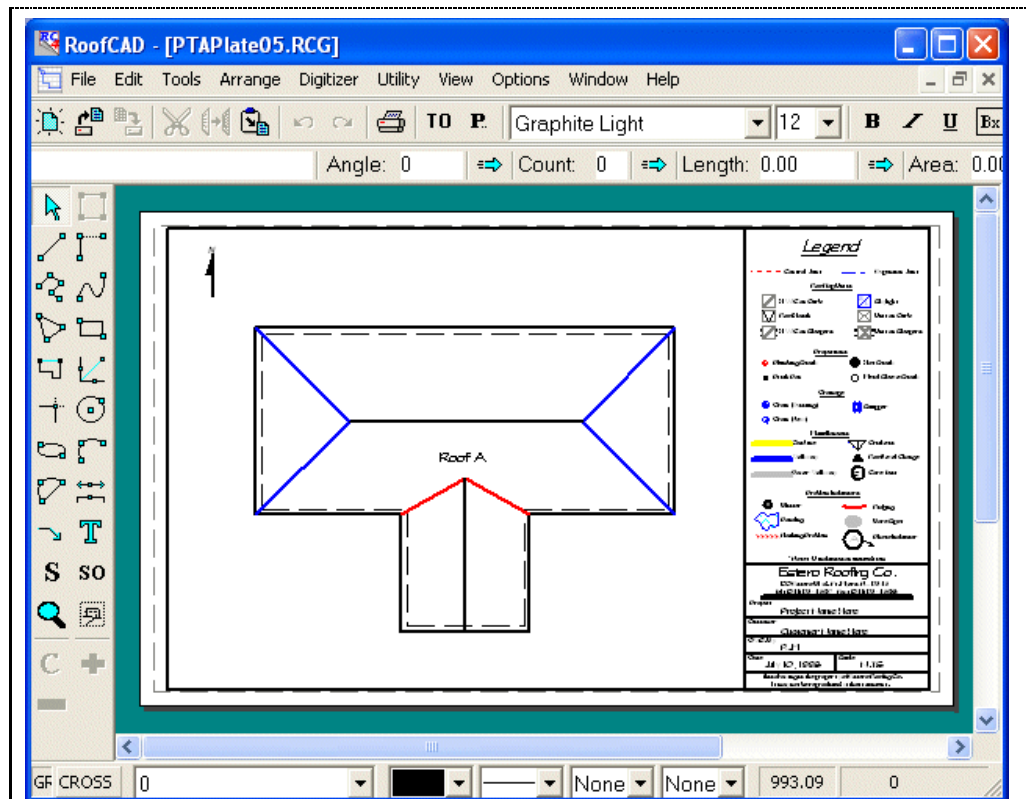
Hips and valleys added...

Get ready to use the Trim tool...

Use the Trim tool as we did in the Basic Pitched Roof tutorial to trim the hips and valleys to the correct lengths, as you see in the illustration following:
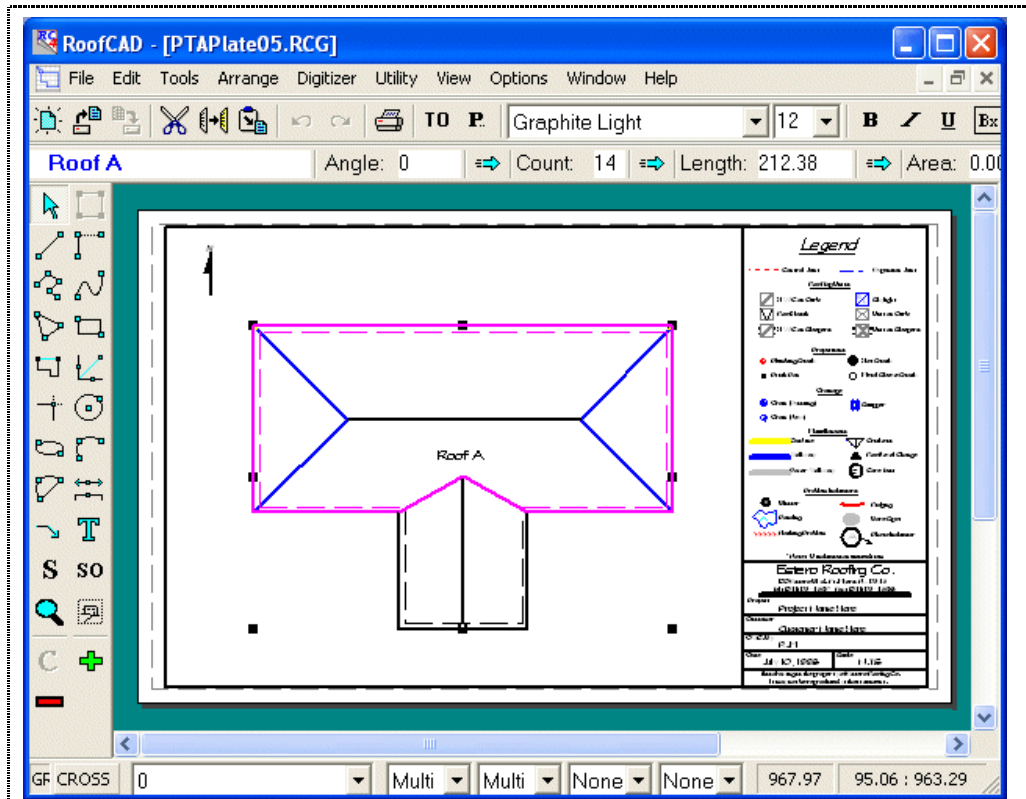
Hips and valleys nicely trimmed.

Now we are ready to draw our ridges. Select the Ridge Smart Object from the Browser. We will again be making use of the Snap hotkeys to place our ridges accurately. Holding down the Ctrl key on your keyboard, click near the point where the hips on the left side of the roof meet, then still holding down the Ctrl key, click near the point where the hips on the right side of the roof meet. To draw the vertical ridge, hold down the Ctrl key and click near the point where the valleys meet, then holding down the Shift key, click on the rake edge at the south end of the roof. Using the Shift key snaps the end of that ridge to the exact midpoint of the rake edge. Your drawing should now look something like this:
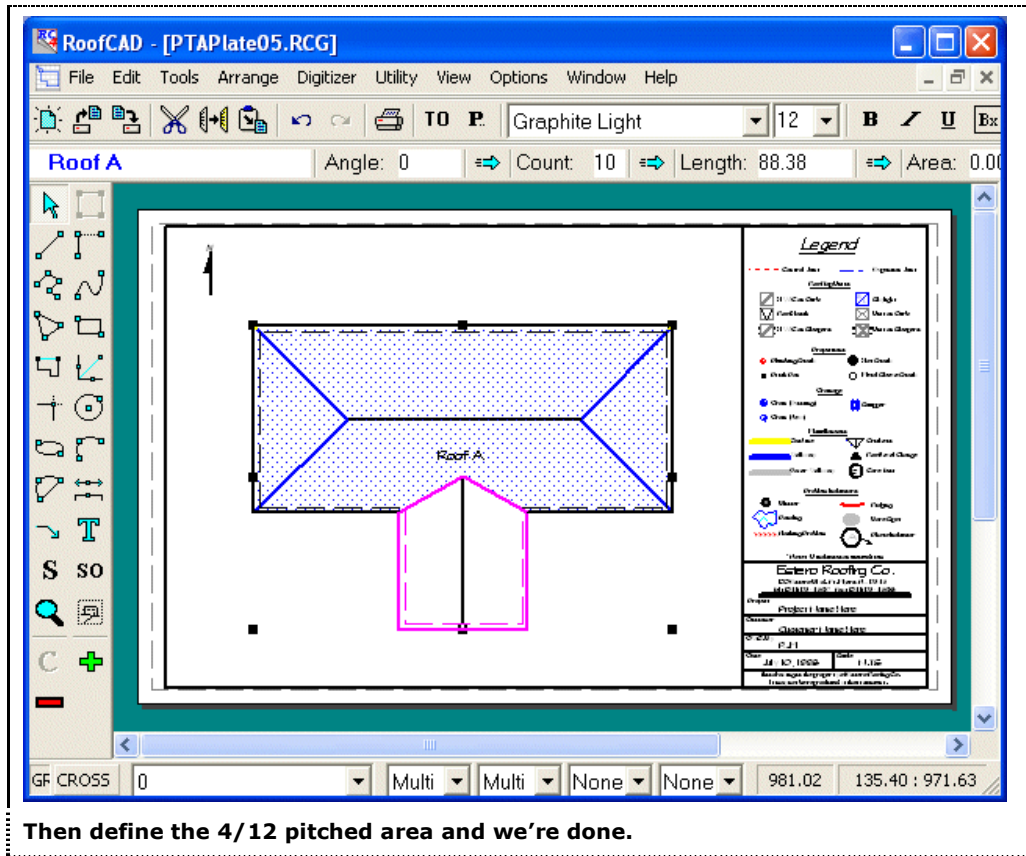
Snap keys make this a little easier.

Now we are ready for the final step of outlining our roof planes. From the Smart Object Browser, select the Roof Plane Smart Object, entering a Pitch of 7. Holding down the Ctrl key, outline the 7/12 pitched area of the roof by clicking on each corner around the perimeter of this area, (highlighted in the following illustration).

Define the 7/12 pitched area...

When you have outlined the area, right click to indicate to RoofCAD that you have finished this area.

Click on the Roof Plane Roof Smart Object in the Browser again, this time entering a Pitch of 4. Holding down the Ctrl key, outline the 4/12 pitched area of the roof, as highlighted in the following illustration.

Then define the 4/12 pitched area and we're done.

Right click to finish the area.

We have now finished drawing this roof. Check your Takeoff Record to review the quantities generated.

To learn how to draw more complicated roofs, with hips and valleys that run from ridge to ridge, see Section 29, Expert Pitched Roof Tutorial.