

### The Exercise

**Qseries  
Software**

DATE DRAWN  
15-03-2006

DRAWN  
Robert

VIEW NAME  
A

JOB DETAILS  
Roof Truss Layout Training  
Entry Level Training  
Exersize 3

DWG FILE  
Exersize One

CHECKED

SCALE  
1:100

The information contained within is intended to be an aid for fabricators and detailers and is not a substitute for professional judgement.

JOB REFERENCE

REVISION

To start the exercise you need to start a new empty drawing  
 Using the 'BSET' command you need to setup your drawing sheet  
 Information entered into the drawing sheet is at the users discretion  
 However it is recommended that you keep the paper size as small as is practical at a scale of 1:100  
 The number of borders is also up to the user, however for this exercise only two are required  
 After setting up the borders, draw in the roof truss pitching lines and the roof overhang or eave line

After drawing the outlines, check and recheck the dimensions.  
 Any mistakes made here will be carried forward into the remainder of the detailing creating a critical error.



If required, one could use the 'M' 'Move' command to move the finished outlines into the centre of the drawing sheets.  
 Remember layouts are for presentation to clients and other personal therefore appearance is important.

### Step One

Now we need to mark the roof overhangs or eave lines as roof lines  
 To do this use the 'TR' 'Code as Roofline' command  
 You should note that the line colours will change to 'Cyan' and the linetype will also change.



If you offset a support line after coding, a word of warning.  
 Whilst the offset command may appear to have worked, in many if not all cases it does not copy the intelligence with the associated entity.  
 After offsetting support lines, you will need to recode the offsetted items.

## Step Two

The software also need to know where the trusses are being supported.  
 To do this use the 'TS' 'Code as Support' command  
 You should note that the line colours will change to a 'Brown' and the linetype will remain solid.



If you offset a support line after coding, a word of warning.  
 Whilst the offset command may appear to have worked, in many if not all cases it does not copy the intelligence with the associated entity.  
 After offsetting support lines, you will need to recode the offsetted items.

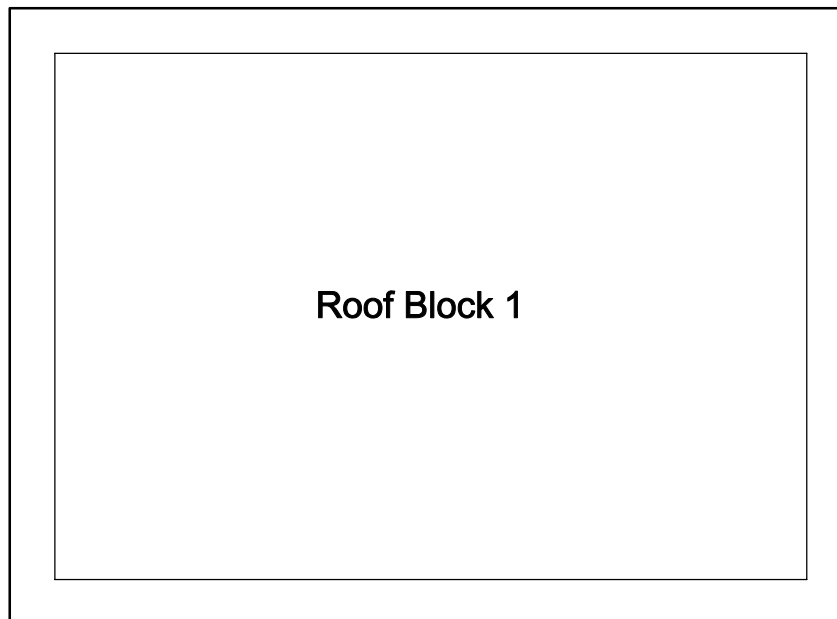
### Step Three

Before proceeding any further, you need to identify the number of roof blocks. Every roof is just a collection of blocks, once the blocks are identified, the hardest part is complete.

This roof has a total of one block. The easiest method to identify blocks is print out the roof plan. With a heavy pen or pencil, draw a rectangle around each block.

Start with the smallest block and work your way to the biggest. Usually the roof blocks will sort themselves out.

For the experienced user, this step may be ignored. Usually these can be determined mentally and therefore become second nature.

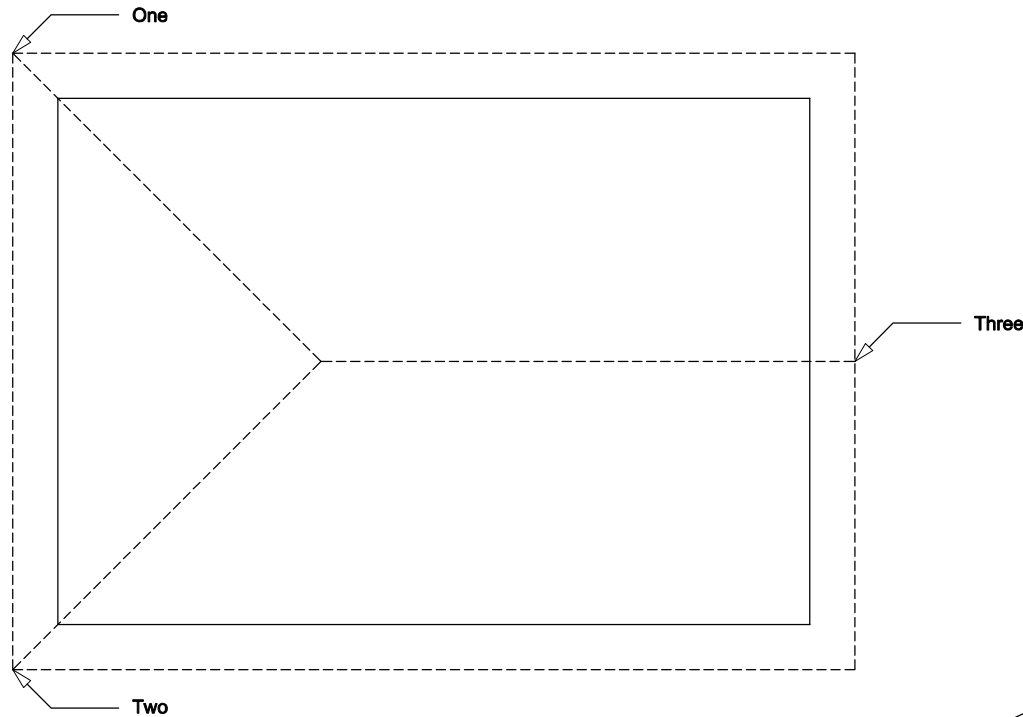


### Step Four

To add the roof lines to the plan, you need to do this block by block.

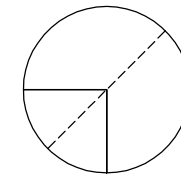
Use the 'CRL' 'Create Roof Lines' command to do this. Always start with the smallest block and work your way through to the largest.

You need to select three points, these points have been labeled on the drawing. As the software prompts for a roof end type, the first end type is a 'H' for 'Hip' and the second roof end type is a 'G' for 'Gable'.

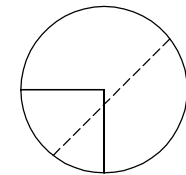


If you zoom up each corner, the roof line should cross the support line directly over the intersection point.

If any of your crossings look like the one in the insert in the bottom right corner, you can be relatively sure you have mistakes or errors in your drawing. If this is the case you should STOP and rectify any errors before proceeding.



Good

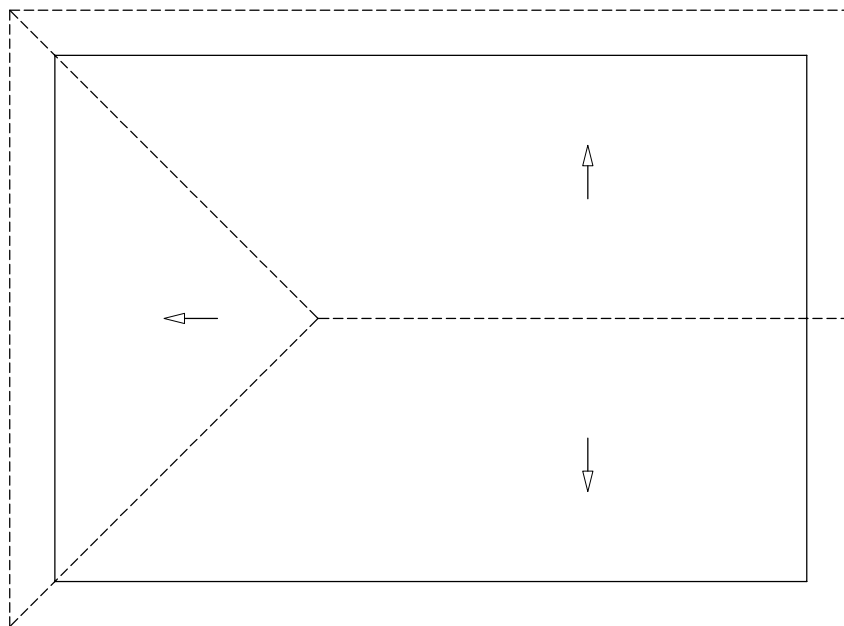


Bad

### Step Five

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Your roof lines have now been added to the drawing. But are they correct. If you are not sure if they are correct there is a way you can check. To check first you need to identify all gutters and valley gutters. Once the gutters have been identified, draw in arrows showing the direction of fall of the roof into the gutters. If any arrows fall away from a gutter, then the roof plan is **WRONG**. Remember water can not flow up hill.



### Step Six

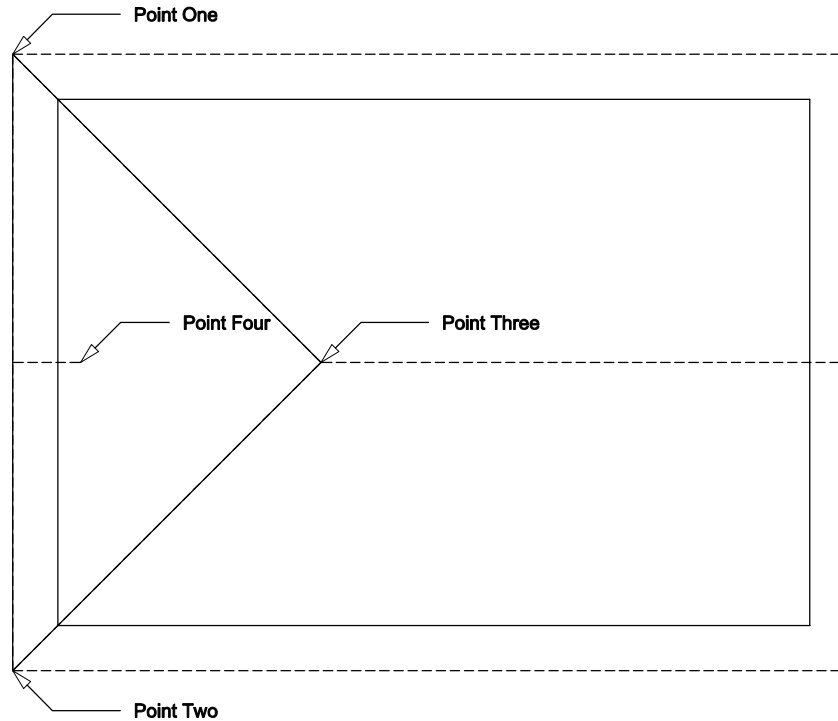
Now your roof lines are complete, it is time to move on to creating the 3D.

To do this use the 'R3D' 'Roof to 3D' command.

To use this command you need to process each roof face one by one.

When first using 'R3D' you are given the option to 'Return' for setup, please ensure your settings are the same as ours.

The 'R3D' works in three parts, for the first part you are required to select all points around the roof face, the second part requires you to select two points representing the pitching or rotation points, with the third part to indicate the direction of the roof slope upwards.



#### 'R3D' Part One

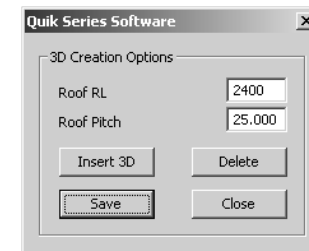
Select points 1,2 and 3 pressing return after point three. These points now define the all points of this roof face.

#### 'R3D' Part Two

Select points 1 and 2. These two points will now be from where the roof face is pitched or rotated from.

#### 'R3D' Part Three

Select point 4. This point now represents the direction of rise of the the roof plane.



## Step Six

**'R3D' Part One**

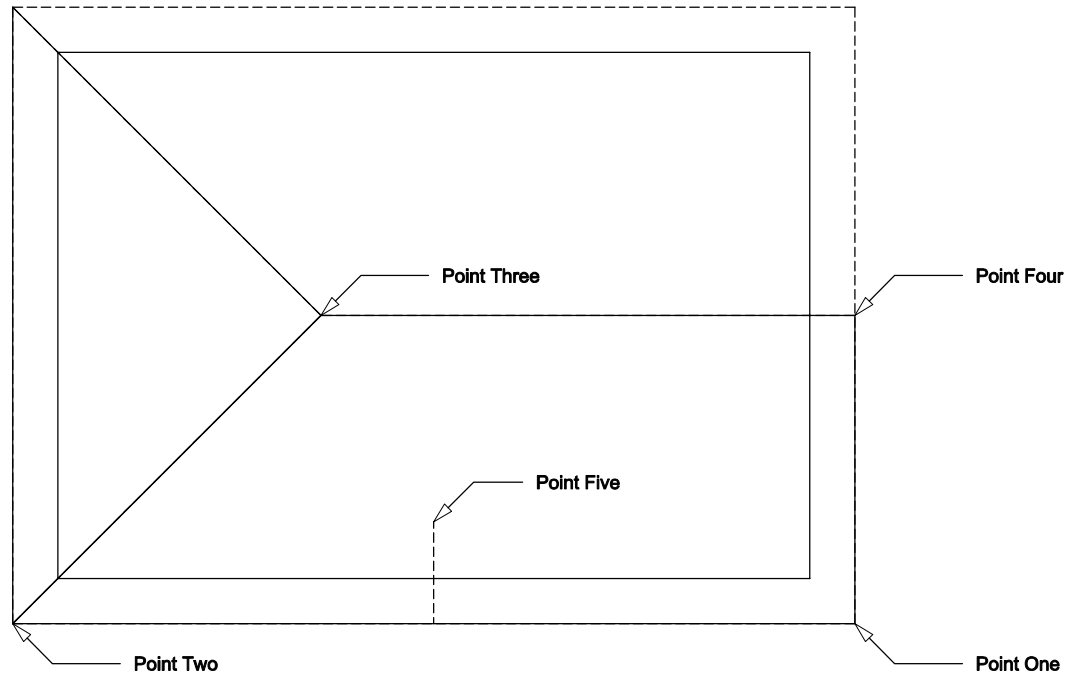
Select points 1 to 4 pressing return after point four. These points now define the all points of this roof face.

**'R3D' Part Two**

Select points 1 and 4. These two points will now be from where the roof face is pitched or rotated from.

**'R3D' Part Three**

Select point 5. This point now represents the direction of rise of the the roof plane.



**Step Seven**

**'R3D' Part One**

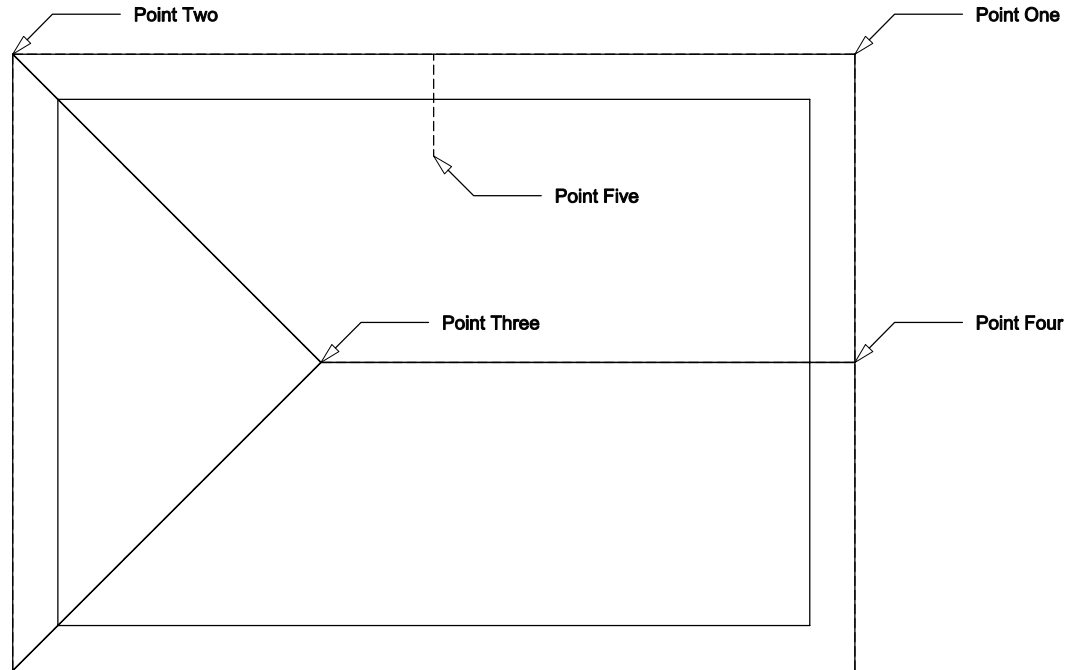
Select points 1 to 4 pressing return after point four. These points now define the all points of this roof face.

**'R3D' Part Two**

Select points 1 and 4. These two points will now be from where the roof face is pitched or rotated from.

**'R3D' Part Three**

Select point 5. This point now represents the direction of rise of the the roof plane.



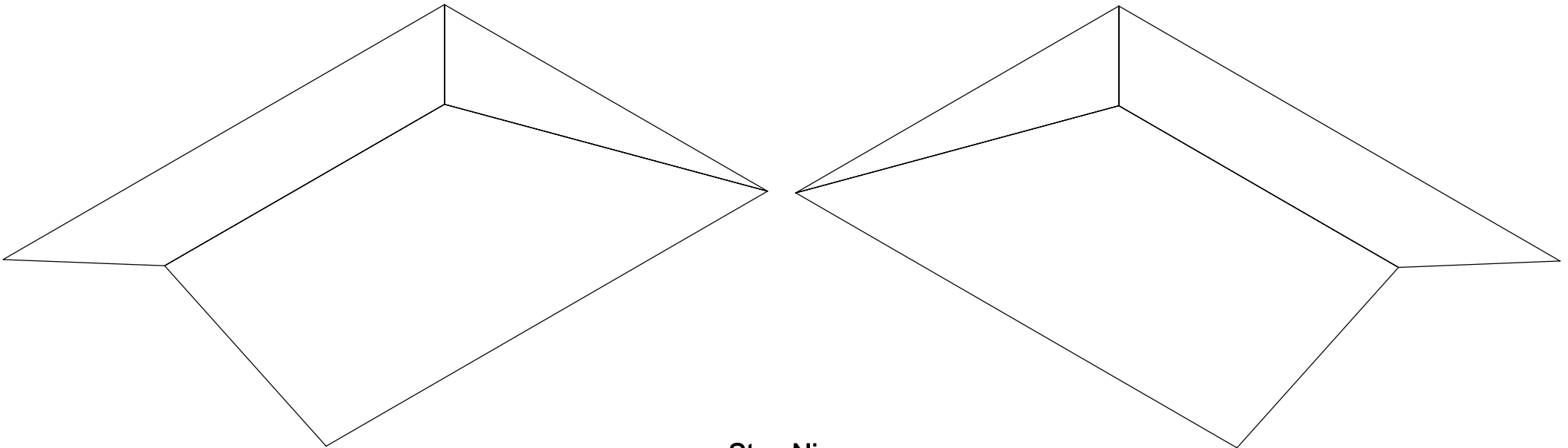
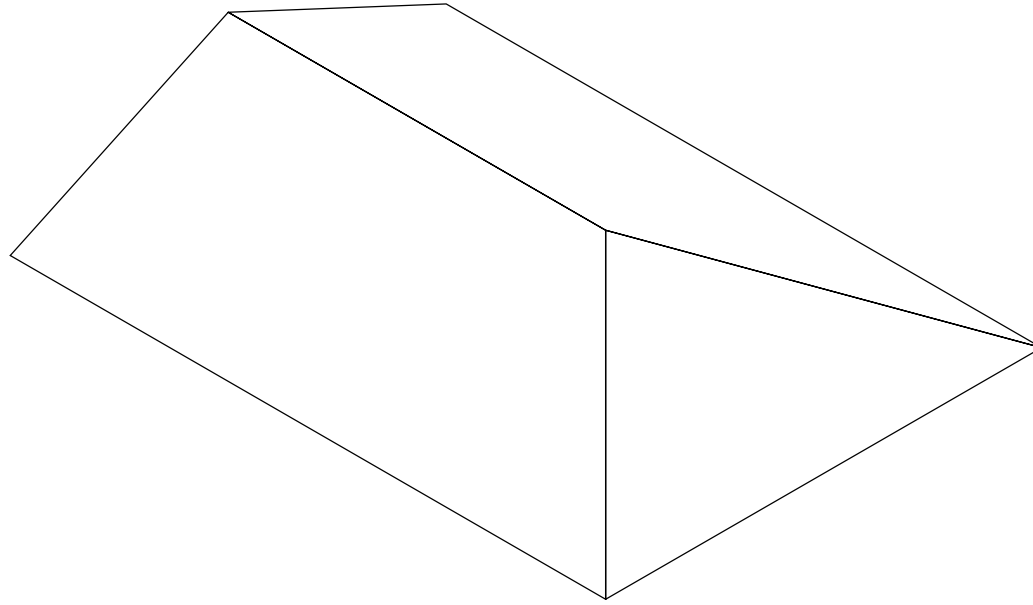
**Step Eight**

To view the roof in 3D, type 'SVV' and a 3D view will appear, keep using 'SVV' and all four views will be seen, returning back to the plan view.

If you want to remove hidden lines from the view, type 'Hide', followed by the enter key.

Now go to the second border that was set up. To do this type 'V' enter 'B' enter as the second border is on view 'B'.

Now using the 'R3D' command and return for setup ,you should be able to create and insert different views of the roof as viewed in 3D.



**Step Nine**

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