

# Perfectly Plain Perspective

By Dalerie Patterson



Perspective lies at the heart of competent art. Learn from an expert ... as our special art tutor guides you through Part Three of the basics of this important topic.

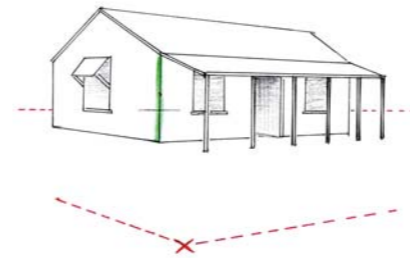
Welcome back to the final instalment in the 'Perfectly Plain Perspective' series. I have included here a photograph of a pioneer hut from Sovereign Hill

at Ballarat. Perhaps you could put this aside to test your perspective skills when this series is concluded. It is a challenging example because you cannot see the baseline on the

right side (V1). Refer back to 'Perfectly Plain Perspective' Part One and see if you can work out where the eye level line occurs in this photograph.



Pioneer Hut.



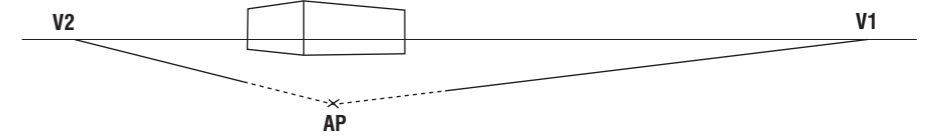
The shack with highlighted vertical.

As I have mentioned before, I encourage all my students to understand the Theory of Perspective. However, in most cases, we would have this photograph enlarged or reduced on a photocopier (usually in black and white) to the exact size required. The image would then be traced onto the canvas using Art Transfer Paper.

Make sure you read 'Perfectly Plain Proportion' coming out in the next couple of months. You will learn how to keep all the elements in your composition – like people, animals and buildings – in perfect proportion to one another. That information will help you to know what size is required.

The advantage of understanding the Theory of Perspective is the flexibility of being able to take this image and alter the eye level line to suit the aspect that you need in a particular composition. You might require the hut to be down below in a valley or perched up above on a hill. You are also able to alter the aspect – perhaps viewing the hut more from the front and showing less of the side wall.

I have mentioned this before, but it is worth reminding you to set up a file (perhaps something like an expander file). When you come across interesting photographs in magazines, newspapers or on-line print, save or clip them out; then file them away for future reference. The 'Tech Savvy' can download or scan the images and file them on a PC. This hut, for instance, could be filed under 'Buildings' to be taken out years later, altered and used in a future project. My students have the most amazing assortment of



Finding the vanishing points.

reference material that they happily share with each other.

Now it's time for you to get cracking and draw a building from scratch. Please have 'Perfectly Plain Perspective' Parts One and Two from Issues 55 and 56 beside you. You will need some sheets of paper (A4, and some at least A3 size), 2B pencils, rubber, normal short ruler and a long ruler (or straight piece of timber about 60-70cm long), and the Tee square or large set square illustrated in 'Perfectly Plain Perspective' Part Two.

Obviously it is impossible for you and I to go to an actual building and sit down together to do this sketch. So we will have to make do with my drawing of this building. You will notice in Illustration 2 that I have marked an 'X' for our position (remember AP – Artist's Position). From this vantage spot we can see more of the front view rather than the side.

It is a good idea to use a 2B pencil for all your lines. You can ink it in when your drawing is correct and complete.

## STEP ONE

Deciding the size of the drawing: Using your set square, draw in the nearest vertical line on the building. You will notice I have highlighted this line with green in Illustration 2. The nearest vertical line on the building is this corner – not the corner post on the verandah. Now mark off the height of this wall. In this particular drawing it happens to be 60mm or 6cm but you can make your own decision on how much larger you want this drawing to be. However, once this measurement is established,

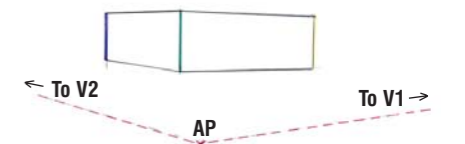
the size of your building is set – 'set in concrete' so to speak.

## STEP TWO

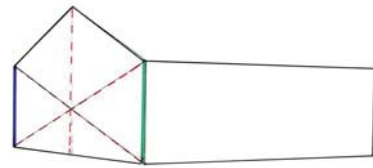
Finding the eye level line: Now we must find where the eye level line is in relation to this building we are drawing. Yes, I know I have a red dotted line in this illustration but that would not be there if we were actually drawing this building on site. Hold a pencil or short ruler horizontally at arm's length at your eye level line. Take a note of where this line cuts through the nearest vertical line (highlighted green) on the building. In this case it is about one-third of the way up. Mark this point on your vertical line. Now use your long ruler to extend this line (the eye level line) horizontally to the left and right. To make sure this line is horizontal, check the measurement up from the bottom of the paper.

## STEP THREE

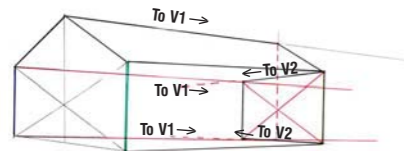
**Finding the vanishing points:** Remember how 'Baldy' stood on the AP and extended his arms out parallel to the sides of the box? We will do the same with the sides of the old shack (see Illustration 3). Extend these lines until they meet the Eye Level Line. The junction point on the right is V1; and on the left, V2.



Two sides of building.



The apex of the roof.



The back walls and roof.

**STEP FOUR**

Drawing the baselines: Using your extended ruler resting on the bottom mark of the nearest vertical (green) and V1, draw the baseline of the front wall. The line in my drawing was approximately 130mm. Remember, if you are drawing an actual building,

you set the length of this line in proportion to the vertical. The length of the baseline of the front wall is a little more than twice the height of the vertical (60mm), so that would make the length 130mm. Use your set square to extend a vertical line up from this point – the end of the front wall (yellow).

Once again, use the extended ruler resting on the base of the nearest vertical (green) out to V2 to mark in the baseline of the side wall. Work out the width of the building in relation to the height. In this case, it is approximately 75mm. Use the set square again to draw the vertical end of the side wall (purple).

**STEP FIVE**

Drawing the top lines: Using your extended ruler resting on the top mark of the nearest vertical (green) and V1, draw a line to meet the vertical at the

end of the front wall, 50mm (yellow). Do exactly the same for the side wall, 45mm (purple). Now you have the exact height for both of these extremities.

**STEP SIX**

Finding the apex of the roof: The apex or pointy part of the roof is directly over the centre line of the side wall. How do we find the centre of the side wall? It's time for a big kiss! I thought that might wake you up and it will certainly help you to remember this very important concept. Because perspective distorts, we do not use a ruler to find the halfway point. Just create a 'big kiss' by joining the opposite corners as illustrated.

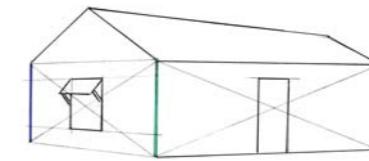
Now use your set square to extend a vertical up through this point. Once again, you determine the height of the roof in relation to the nearest vertical.

It was 85mm on my sketch (this is marked with a red dot in Illustration 9). Draw lines down to connect the apex point to both uprights of the side wall.

**STEP SEVEN**

The roof: With the extended ruler resting on the point of the apex and V1, draw the line along the top of the roof past the end of the building.

How do we determine where this line ends? Did you say, "On the apex of other side wall which is completely hidden from view?" Go to the top of the class. If you look at Illustration 6, you will see that I have demonstrated the correct way to find this point. However I must confess that I can't be bothered doing all this – so I usually cheat by drawing the end of the roof parallel to the corresponding sloping line on the side wall.

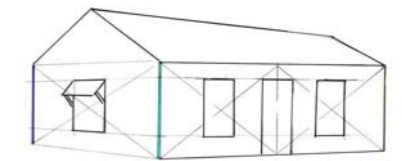


The door and side window.

**STEP EIGHT**

The door and windows: First up is the side window. I have erased some of the previous pencil lines that we don't need anymore, to clear the decks. The kiss on the side wall remains because we need to know the exact centre of that wall so we can set that window squarely in the middle. My window is 30mm high on the closest vertical. Remember to use your extended ruler to V2 for the top and bottom lines of this window.

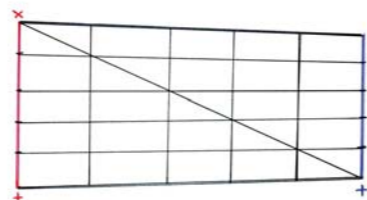
Front door: To place the front door smack bang in the middle of the front wall, I need another big kiss. Place a



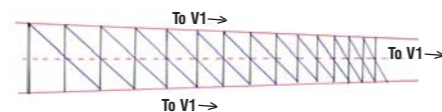
The front windows.

vertical line to divide the front into two equal sections then you can insert your front door squarely in the centre. The nearest vertical on my door is 45mm.

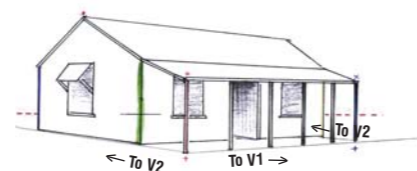
Front windows: In Illustration 8, I have rubbed out the lines we don't need. Now you need to divide the two equal sections of the front wall again so the windows can be centred into the space on each side of the door. You will notice that I have extended the lines top and bottom of the side window to the nearest vertical (green). Extend these lines across the front wall to V1 and you will have



The awning posts.



The fence.



The awning.

your front windows lined up with the side window. The height of the nearest vertical on the closest front window is 35mm.

**STEP NINE**

The awning: Once again, I have erased the lines that are not needed. First up we extend the baseline of the side wall forward. Now, hold your extended ruler on V1 with your right hand on V1; swivel it down the width of the verandah (approximately 8mm below the nearest front window) until you reach the extended baseline of the side wall. That junction point is the base of your nearest vertical post (marked +). Use the set square to pencil the vertical line for the closest post (marked red). To double check, you will notice that the nearest post on the awning cuts through the window just a little left of centre.

Now look closely at the shack and you will see that the pitch of the awning is less acute than the roof.

Draw that angle out from the corner until you meet the post (red). Now you have the height of the nearest verandah post – approximately 50mm in my drawing. Place your extended ruler on the top of that post (red x) to V1 and draw in the top line of the awning.

With the ruler on the base of the closest post (red +) and V1, draw in the line for the bottom (baseline) of the posts. To find the base of the most distant awning post, we need to place our extended ruler from V2 making sure it is just touching the bottom of the front wall (yellow) – and extend this line out. The point where it intersects the baseline for the posts (+) gives you the bottom of the far post (blue).

**STEP TEN**

The awning posts: I know that this has been a hard slog, but this next procedure I am about to show you is so important. You will find this concept crops up in many different aspects of your paintings.

How do we divide an area into a number of equal spaces?

In this particular case, we have six posts and that means five equal spaces. It is quite easy to divide your nearest vertical post (red) into five equal spaces. The nearest (red) on my sketch is 50mm – so you can mark that off at 10mm each. Extend pencil lines from each of these divisions to V1. This should neatly divide the distant post (blue) into five equal spaces. Now you need to draw a diagonal from the top of the nearest vertical (red x) to the base of the distant post (blue +). Use your set square to place a vertical at each of the points where this diagonal intersects your connecting lines. Wow! Isn't that great?

That's it! We have constructed the shack together. I know you are probably as exhausted as I am ... but just before we both call it a day, we have one more task to tackle – building a fence.

How do we know where to correctly space the posts on a line of fencing?

First, take a look at Illustration 11. On the left we have a fence post – drawn, of course, with your set square to make sure it is vertical. Once you have established the height of this post and the line of the fence, extend the baseline right out to the Vanishing Point (V1). Now draw another line from the top of the post to V1.

Secondly, mark off a point exactly halfway up your post. Draw a line (the dotted red line) from this point to V1. Now you must decide on the spacing between the first and second fence post. Once this is established, it will set the pattern for the remainder of the fence. Draw in the second post.

Next, you drop a diagonal (blue) from the top of your original post through the centre of the second post to intersect with the baseline. That's the bottom of post three. Draw it in.

Finally, extend a diagonal from the top of post two through the centre of post three and so on and so on and so on. That's so simple, isn't it?

If you have followed all the instructions carefully in all three of the 'Perfectly Plain Perspective' series, you have qualified as a 'Shack Draftsperson – Elementary Grade' and a 'Provisional Fence Designer'. Congratulations!

Remember my article, 'Oh Dear, What Can the Matter Be?' in Issue 53 on page 68? Look closely at the shack in that painting. Now you should be able to identify some of the bloopers in the perspective of that building.

Stay tuned for 'Perfectly Plain Proportion' coming up soon.

The websites of Dalerie Patterson ... your personal on-line art trainer ... can be found at [www.artist-tutor.com](http://www.artist-tutor.com) and [www.artstudio91.com](http://www.artstudio91.com)