

Simple Pergola Plans

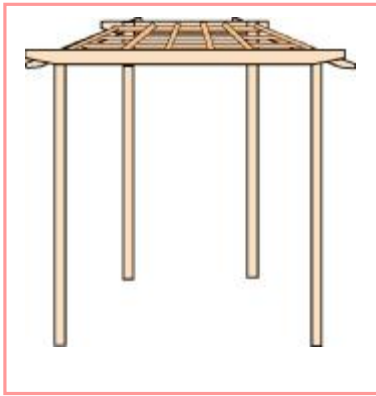


Fig. 1

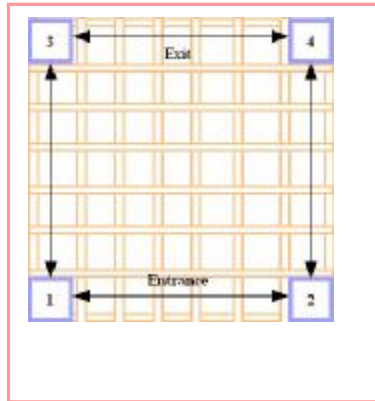


Fig. 2

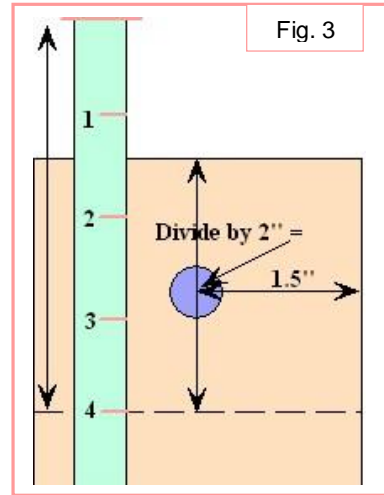


Fig. 3

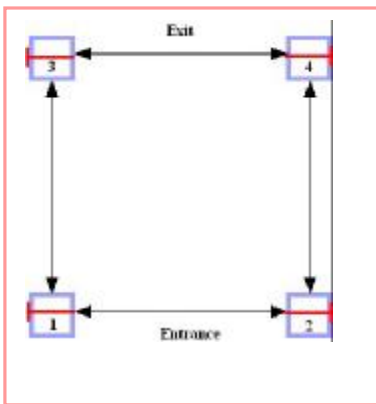


Fig. 4

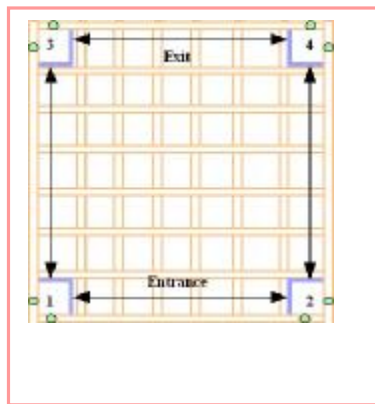


Fig. 5

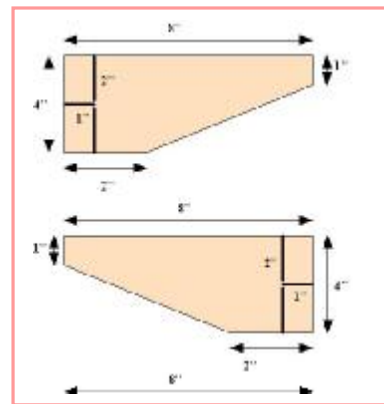


Fig. 6

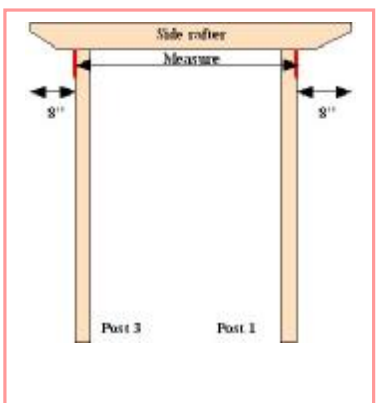


Fig. 7

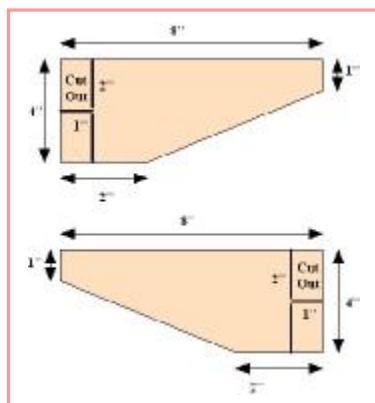


Fig. 8

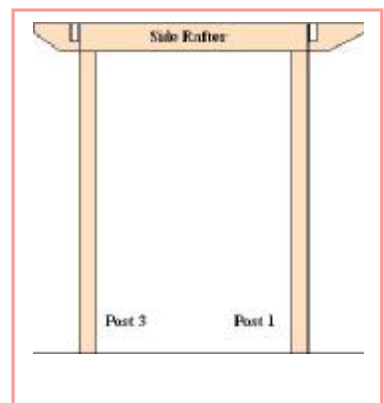


Fig. 9

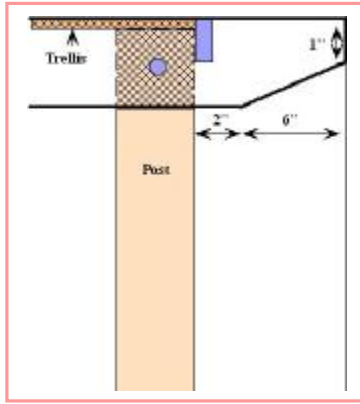


Fig. 10

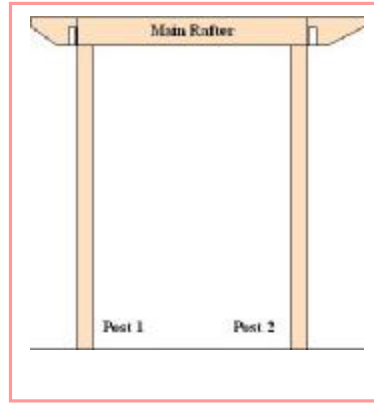


Fig. 11

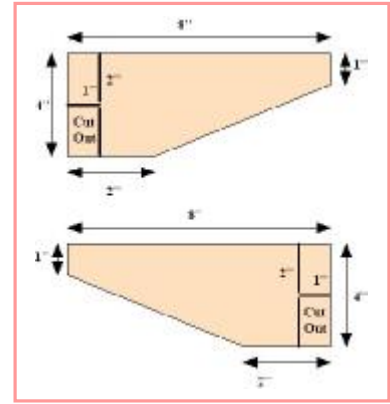


Fig. 12

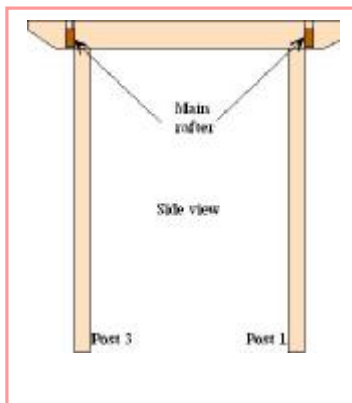


Fig. 13

Organise your project:

- Print these plans.
- Make your rafter tail template or choose it from: www.pergolaplans4free.co.uk/pergola-rafter-tails.html
- Print the list of materials: <http://www.pergolaplans4free.co.uk/simplepergola-toolsandmaterials.html>
- Check for any adaptations that you may need, or want, to make: www.pergolaplans4free.co.uk/adaptingtheplans.html
- Place in a ring binder
- Tick off your tools and materials as you find them.
- Ready to begin?

Terms:

Pilot hole – this is a hole you make, with a small drill bit (approx. 2mm), before you screw. It is used to prevent the wood from splitting.

Rafter – these are the flat pieces of wood (4"x1") that run around the top of your pergola and help to form the roof.

Rafter tails – these are the bits that stick out of the ends of the rafters. They can just be cut at an angle for a plain rafter tail or can be curved for a more individual design.

Side rafter – these run down the side of the pergola, often where trellis panels are added.

Main rafter – these run across the entrance and exit.

Notch – this is the bit that you take out so that you can slot the rafters together.

Position the Posts:

1. Check that there are no underlying services i.e. electricity, water and cable, as these can be very expensive to repair!!
2. Take your trellis panel and lay it on the ground where you want the roof of your pergola to be. If your ground isn't level see www.pergolaplans4free.co.uk/adaptingtheplans.html or simply level it.
3. Mark around the corners of your trellis. This will show where the posts need to be placed. (fig. 2)
 - The diagram shows the posts, so that you will know where they should be. You only need to mark the outside edges of the corner of the trellis.
4. Now you need to work out where the bolt holes need to be drilled in your posts. (fig. 3)
 - Measure the thickness/depth of your trellis edge (that is the total depth of both the wood running down and across - it will be about 1 ½"). The trellis is going to sit in the recess made by the rafters.
 - Put your tape measure against the top of your post so that it sticking out over the end by the amount that is the thickness of your trellis panel.
 - On the post itself, draw a line across the width of the post where the tape shows 4" (that is the depth of your rafters).
 - Now put the tape measure to the exact top of the post. Note down the measurement to your line (e.g. 2 ½") and half it (e.g. 1 ¼ ")
 - Mark a point at this measurement down and 1 ½" from each side.
5. Drill a hole right through the post, where you marked the bolt hole positions, with a 8mm drill bit.
6. Position the Metpost 1 into the ground, where you marked the corner of the trellis and drive it in with the driving tool. (fig. 2)
 - Keep adjusting the Metpost to keep it square, using the handle on the driving tool, as they do tend to skew as you hit them in.
 - Insert only the spike into the ground.
7. Do the same with Metpost 2. You have now formed the entrance.
8. Place the 3" x 3" wooden Post 1 into the Metpost 1, making sure the bolt holes are placed in the correct direction. (fig. 4)
 - You may need to use a mallet if the post is a tight fit.
 - Make sure it is perfectly upright using the post level.
 - Tap lightly on the side to bring it level.
9. Drive in Metposts 3 and 4. You should be good at this by now!

10. Put the other posts into the Metposts and level them up with the post level.
11. Sit the trellis panel on top of the posts.
 - The posts should sit exactly under the trellis panel corners.
 - Make slight adjustments, if necessary.
12. Pilot drill a holes down through the trellis panel into the top end of the posts (fig. 5).
 - You will need your step-ladders here.
 - Be very careful when using ladders and power tools. Make sure your ladders are secure.
13. Screw down into this hole with you decking screws (fig. 5).
14. Well done! You have attached the trellis roof and are ready to attach the side rafters and main entrance/exit rafters.

Attach the Side Rafters: (Side rafters are those running from posts1 to 3 and 2 to 4.)

1. Firstly, make a template for your rafter tails/ends. Mark on both sides. (fig. 6)
 - A shoebox or cornflake packet will do.
 - If you would like a ready-made rafter template or would like a wider choice of styles, click on the following link for more information –

www.pergolaplans4free.co.uk/ pergola-rafter-tails.html
2. Cut your 4" x 1" wood to the required length.
 - To do this just take the measurement from the outside of posts 1 an 3 and add 16" - 8" for each side. (fig. 7)
 - Note down the measurement for later.
3. Place your template onto the end of the side rafter. Mark all around it and then cut the sloping rafter tail. (fig. 8)
 - Take care that you have the template the right way up at both ends before you cut!
 - Always check your markings before cutting.
4. For the side rafters, the notch needs to go at the top edge. Mark it from your template. (fig. 9)
 - Use a carpenters square or set square to make sure your lines are at 90 degrees.

5. Saw the notches to the 2" mark and then chisel out the rest. So far, so good?
6. Hold the side rafter up to the line you made on the side of your post and mark the bolt position, through the post bolt hole, with a pencil or your drill. Drill the side rafter with the 8mm drill bit. (fig. 10)
 - The notches should lie immediately outside, and flush with, the outside edge of the post.
 - The top of the rafter should lie flush with the top of the trellis edge.
7. Do the same with the opposite side rafter.
8. You are ready to bolt on the side rafters.
9. Line up the bolt holes and use a hammer or mallet to push the bolts through. Add a washer and then the nut. Tighten up. Do this for all four bolts.
 - The circular domed end of the bolt should be on the outside of the post.
10. You are nearly there – only the main rafters to put on!

Attach the Main Rafters: (Main rafters are those running from entrance to exit.)

1. It is important to remember that on the main rafters, the notches are on the bottom. (fig. 11)
 - Check carefully against the diagram before you cut.
2. Cut the wood to length – that is the distance between posts 1 and 2 + 16"
3. Use your template to mark and cut the ends.
 - Check before you cut that you have marked both ends the right way up!
4. Use your template to mark and cut the notches. (fig. 12)
5. Now place the main rafter notches onto the side rafter notches and use your mallet to gently knock them together so that they lie flush (fig. 13).
 - If you hit them too hard the wood will split!
6. Use your pilot drill to drill through the main rafter down into the side rafter.
7. Screw in from the top.
8. Now attach the trellis onto the rafters from the inside by screwing three screws along each length of both side and main rafters.

Attach trellis to the sides: (Optional)

You can of course attach trellis to the sides of your pergola and even to the back of your pergola, if you want to make it into a shady retreat. This is quite simple to do. However, the trellis is unlikely to fit exactly, as your exact trellis measurement was used to form the layout measurements for your pergola roof.

1. Measure the width of the space between the inside of your posts 1 and 3.
2. Mark this measurement on you trellis width all the way down your trellis panel.
 - The height will be probably 6', so the width measurement is likely to be 4' or 5'.
3. Cut the trellis panel to size.
4. Position the trellis panel about equal distance from the ground and the bottom of your rafter.
5. Hold the trellis flush with the outside edge of the side posts 1 & 3 and pilot drill the first hole, through the uncut trellis edge into the post, near to the top of the trellis panel. Screw in.
 - You can place some brick, stone, or anything really, underneath the trellis to support it, while you are drilling and screwing.
6. Now attach the other side. Make sure your panel is level. Take a corner bracket and screw it into the post and the trellis panel to join the two together. The trellis will be held in place now.
7. Drill three more pilot holes down one side and then screw to join the trellis to the post, making sure that the trellis edge is to the outside edge of the side posts, all the way down.
8. Repeat for the other trellis panel on the opposite side between side posts 2 & 4.
9. Wow – looking good!
10. Last but not least, take a long cool beer, a glass of wine or a good old cup of tea, stand back and admire your work. Yes – it's finished!!

Now that you have your wonderful pergola, you might like some ideas on planting, which will really make a difference to your newly built pergola! –

www.pergolaplans4free.co.uk/climbingplants.html