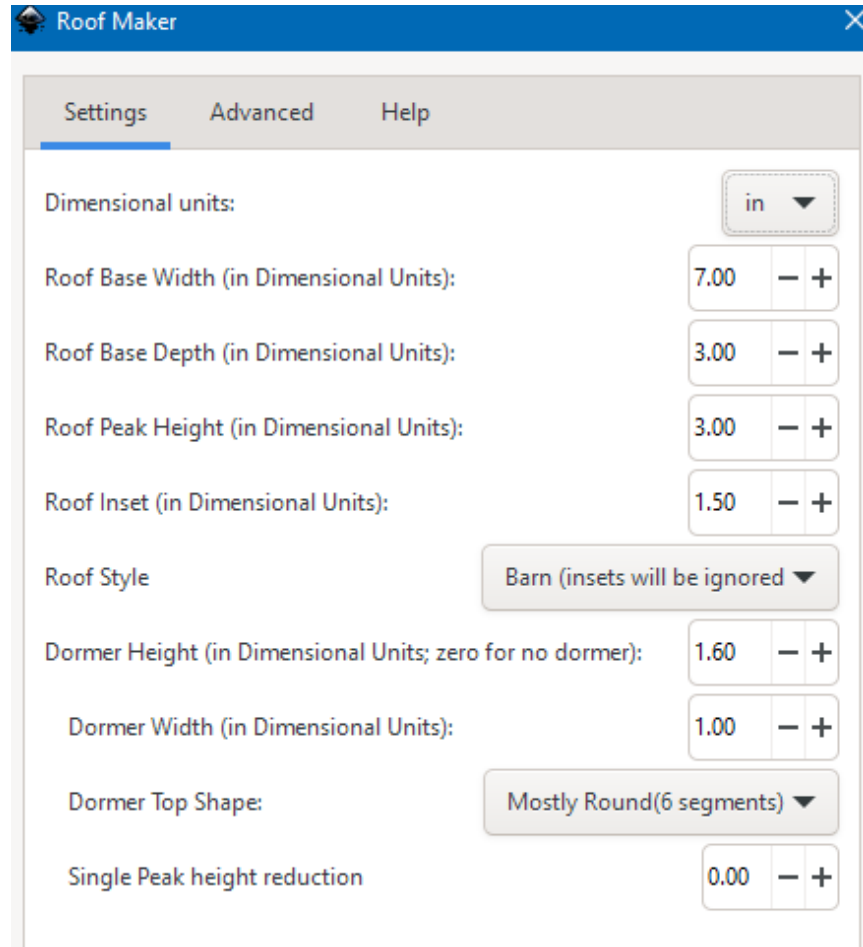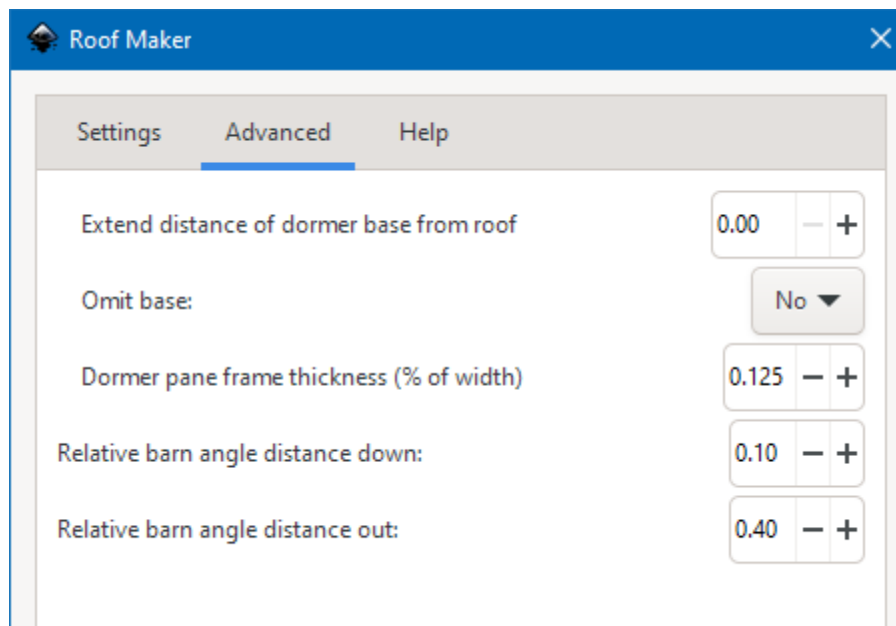# Roof Maker

This extension is designed to help make roof pieces for 3D papercraft designs. It also designs the pieces for dormer windows of several types.

The Options Panel: The most common parameters are in the Settings tab. Some advanced settings are under the Advanced tab.

Roof Maker ✕

Settings	Advanced	Help

Dimensional units:	in ▼
Roof Base Width (in Dimensional Units):	7.00 — +
Roof Base Depth (in Dimensional Units):	3.00 — +
Roof Peak Height (in Dimensional Units):	3.00 — +
Roof Inset (in Dimensional Units):	1.50 — +
Roof Style	Barn (insets will be ignored ▼
Dormer Height (in Dimensional Units; zero for no dormer):	1.60 — +
Dormer Width (in Dimensional Units):	1.00 — +
Dormer Top Shape:	Mostly Round(6 segments) ▼
Single Peak height reduction	0.00 — +

Roof Maker ✕

Settings	Advanced	Help

Extend distance of dormer base from roof	0.00 — +
Omit base:	No ▼
Dormer pane frame thickness (% of width)	0.125 — +
Relative barn angle distance down:	0.10 — +
Relative barn angle distance out:	0.40 — +

Dimensional units: This parameter is the units that the user is using in Inkscape

Basic Roof Settings

Roof Base Width: From a front view, this is the left to right width of the roof
Roof Base Depth: From front to back at the base of the roof
Roof Peak Height: The vertical measure from the base of the roof to the peak
Roof Inset: If used, this will make your roof narrower at the top than the bottom . The inset refers to how much this is on each side. E.g. if you use .5", the top of the roof will be a total of 1" shorter than the base. This is ignored if the roof style is set to Barn
Roof Style:
> Normal: One angle from base to peak.
> Barn: The angle at near the top will change to tilt in more

Dormer Window Settings:

Dormer Height: The height of the dormer window. **If zero,** then no dormer windows will be drawn.
Dormer Width: The width of the dormer (from a front view)

Dormer Top Shape: Dormer windows are one of four types:
> Mostly Round: The top is formed with six segments - essentially the top of a dodecagon
> Geometric: The top is formed with four segments - essentially the top of an octagon
> Single Peak: The top will come top a single center peak
> Just the Base: The window will be rectangular

Single Peak height reduction: If the dormer is the Single Peak type, then this number can be used to lower the peak to a flatter profile. Dormer height will remain the same.

Extend depth of dormer: Normally the dormer will be flush to the roof at the base. This amount will be used to allow your dormer base to be outset from the roof.

Omit base: If using a dormer type other than Just the Base, then you can opt to use only the top shape of the window. This will limit your dormer height to the shape of the top of the dormer. (The calculated height of the dormer top is normally equal to half the width of your dormer.)

Dormer pane frame thickness % : This is how thick you want the "frame" area around the dormer window "glass" pane. Increase this to have more room for trim, for instance.

Relative barn angle distance down: On barn type roofs, this affects where the change in the roof angle occurs, as a percentage (downward) of the roof peak height. Smaller numbers will result in the roof angle change occurring higher. *

Relative barn angle distance out: On barn type roofs, this affects where the change in the roof angle occurs, as a percentage (outward from center) of the roof depth/2. Smaller numbers will result in the roof angle change occurring closer to the middle. *

*To more easily preview the shape of the resulting settings, look at the roof side decorative piece.

Usage and notes:

After installing, the extension can be found in "Extensions->Papercraft"

Basic usage: Just fill out the setting options and apply. Your pieces will be created.
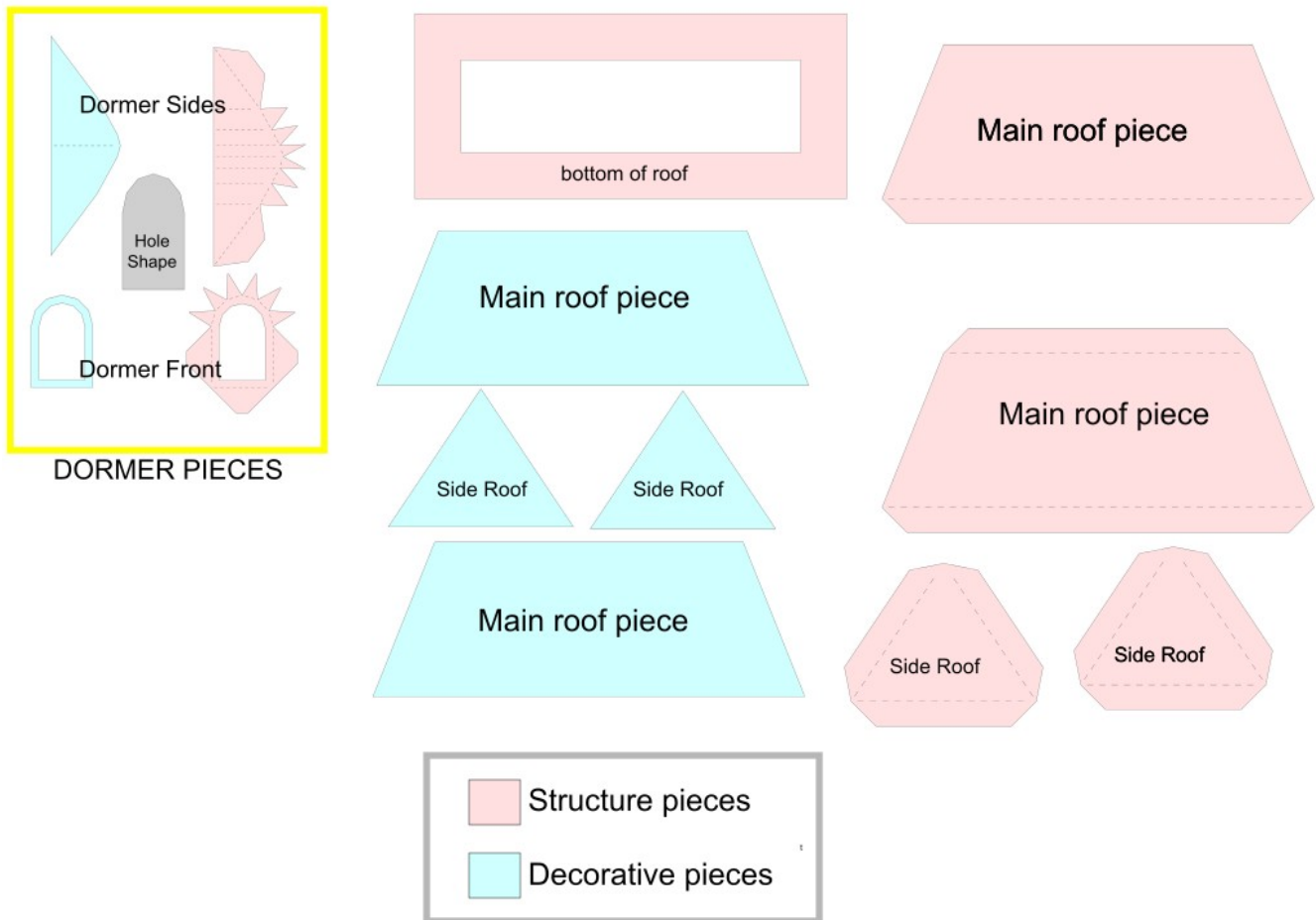

Figure 1: Pieces that the extension creates

Some of the pieces created will be positioned on top of each other. Just move them apart. Most are single paths. The only exception to this is the main roof pieces, which are grouped with their scorelines. This was done to make it a little easier to add the dormers (explained below). Following is an example of the pieces created. Yours will likely look different depending on the parameters you use.

Dormers Placement:

You will need to decide how many dormer windows you want, and where to position them in your roof, if using them.

Here are the steps for doing that (this will go very quickly once you've done it a couple of times):

1. Move the decorative roof main piece over the roof piece. You will want to cut holes in the decorative piece in exactly the same place as on the structure piece. If you are putting windows on the backside as well, you can stack all the roof pieces and decorative pieces at this point.

2. Ungroup the decorative piece if it is grouped with scorelines.

3. Drag one or more duplicates of your hole shape onto the decorative piece.

4. Once you have your hole shape(s) in position, select them all and combine (ctl k) into a single hole path

5. DUPLICATE (ctl-d) THIS PATH and leave the duplicate selected (if doing both sides of the roof duplicate 3x)

6. If the decorative piece is grouped with scorelines, ungroup it. (ctl shift g)

7. Shift-click decorative piece and difference with the holes (ctl shift -) to make a new roof path

8. Select the scorelines (if present) and roof piece and combine (ctl-k) You will now have a single path that incorporates your decorative roof panel and the roof.

9. Move the decorative roof piece aside. You should still have the a holes path and the structure piece in place. Follow the same steps as above to place holes into the structure piece. If you are doing both sides of the roof, just repeat steps 6-8.

10. Be sure to duplicate the four dormer pieces so you have the pieces you need for any additional dormers.

11. You can delete the hole piece once you are finished.

Other changes you might want to make:

Roof decorative pieces: you might want to extend the height and/or width of these so they will overhang your roof a bit, or you might want to create shingle cuts in them for interest.

Dormer side decorative piece: You might want to increase the height of this (the long side) just a small amount to help it fit better over the structure piece when assembled. A very small amount (a couple of hundredths of an inch) should be enough. It depends on the thickness of your paper to some degree, so is not done automatically by the extension.