Great Rhombicosidodecahedron — Plans for a Cardboard Model

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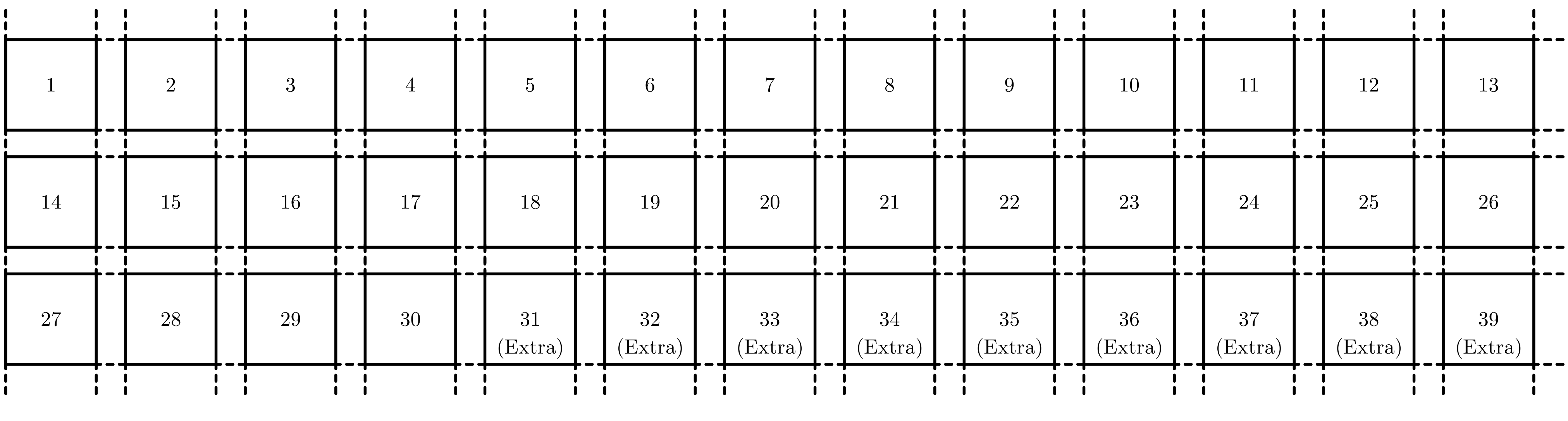
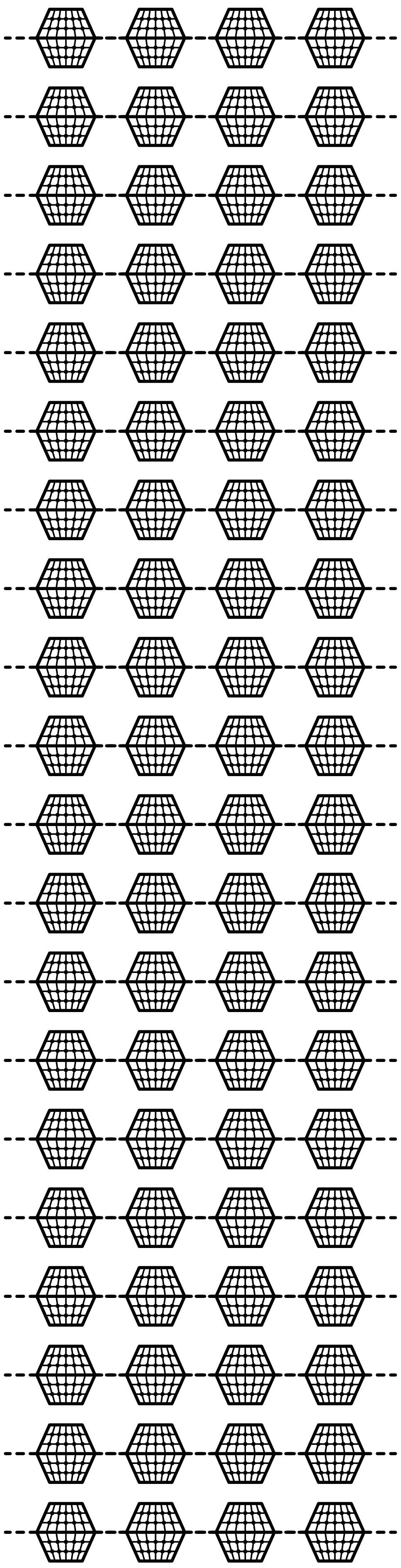
Instructions

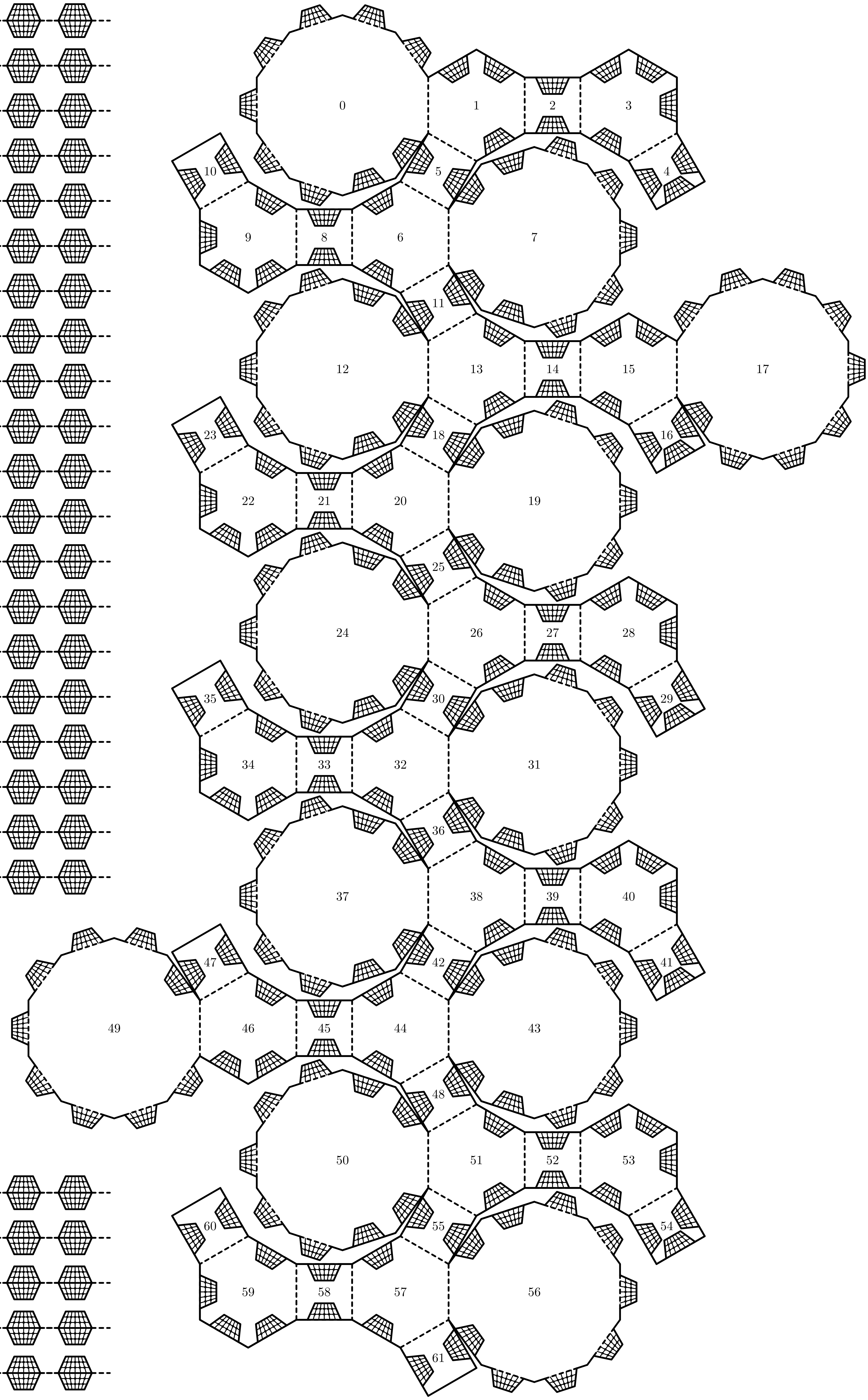
PLEASE NOTE! The author has tried to ensure that the following plans are correct, but as of January 22, 2009, he has not tested them yet himself. As mentioned above, this material is distributed **without a warranty**. I recommend that users check it themselves before investing a lot of time and effort into cutting out the cardboard model.
Any corrections will be gratefully received by the author. Contact information can be found on the title page.
To use these plans, tape or otherwise attach them to a sheet of Bristol board or heavy paper. Then use a cutting knife to cut the *outer* and *score* the inner lines of the plan. **Please note**, however, that the traces of the tabs and the dotted lines with larger dots within the polygons should not be scored! The knife must be sharp as Bristol board will dull the blade quickly.
The large dots show where holes should be poked for stitches. The latter are meant to be used for aligning each pair of sections of the model where they attach to each other. It is intended that the stitches only be used for alignment and that the model be glued together. However, the stitches may suffice. I haven't tested this, though.
On this model, I am trying a double row of stitches for each tab. I haven't tested this yet, either.
I have been using knives with disposable blades. I've been meaning to try sharpening them but haven't done so yet. I therefore can't say whether this will work. It seems a shame to waste so many blades, which is why I have a jar full of them. They must be good for something.
It will be necessary to retape as bits of the plan are cut out.
Make sure that the plan is taped down smoothly or you will introduce inaccuracies. *Do not untape it or let it slip until you are done!* You will never get it back where it's supposed to go. However, it is possible to start again, make another portion of the plan and attach the pieces. There's no real need to make the net in one piece.
Use removable tape. Ordinary masking tape will damage the paper layer of the Bristol board when it is removed. Be aware that "removable tape" isn't completely reliable, especially if left too long on the drawing. Sometimes it's possible to reuse pieces of it, which avoids wasting large amounts of it.
The sides of faces without tabs have a "trace" of a tab on them, indicating where the tab will lie under it. The dots on the lines through the middle of the tabs and their traces (lengthwise) indicate positions where holes can be made for sewing the model together. This will only be necessary for the last faces, where there's not enough room to fit one's fingers inside the model.
Holes can be made using a needle, if the cardboard isn't too thick. A small tack or brad can be driven through thicker cardboard.
Some of the polygons on the net are so close together, that there is no room to print an outer tab. In this case, both the polygons in a pair have a tab trace. Next to the net, I have printed double tabs which are to be punched, cut out and attached to the inner tabs of these polygons.
After the glue has hardened, stitches can be picked out and the ends snipped off. If paper is to be glued onto the faces (e.g., watercolor paper), it may not be necessary to remove every last trace of thread.
I recommend using hide glue, which must be soaked in water and heated in a glue pot.
I like to glue watercolor paper onto my models, since Bristol board is not a particularly attractive material. This pages and page 3 contain patterns for cutting out polygons to be attached to the sides of the pyramids. A copy of the plan for the nets should not be used for this purpose, because the polygons butt up against each other. To cut out the individual polygons precisely, there must be gaps between them.

Patterns for Square Watercolor Paper Cut-Outs



Double Tabs

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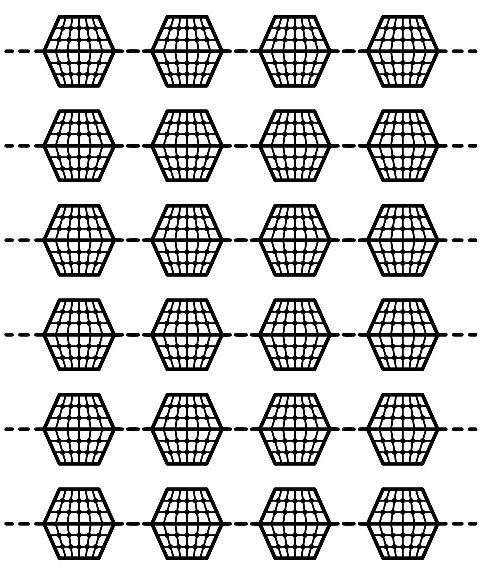

Patterns for Watercolor Paper Cut-Outs

(Decagons and Hexagons)