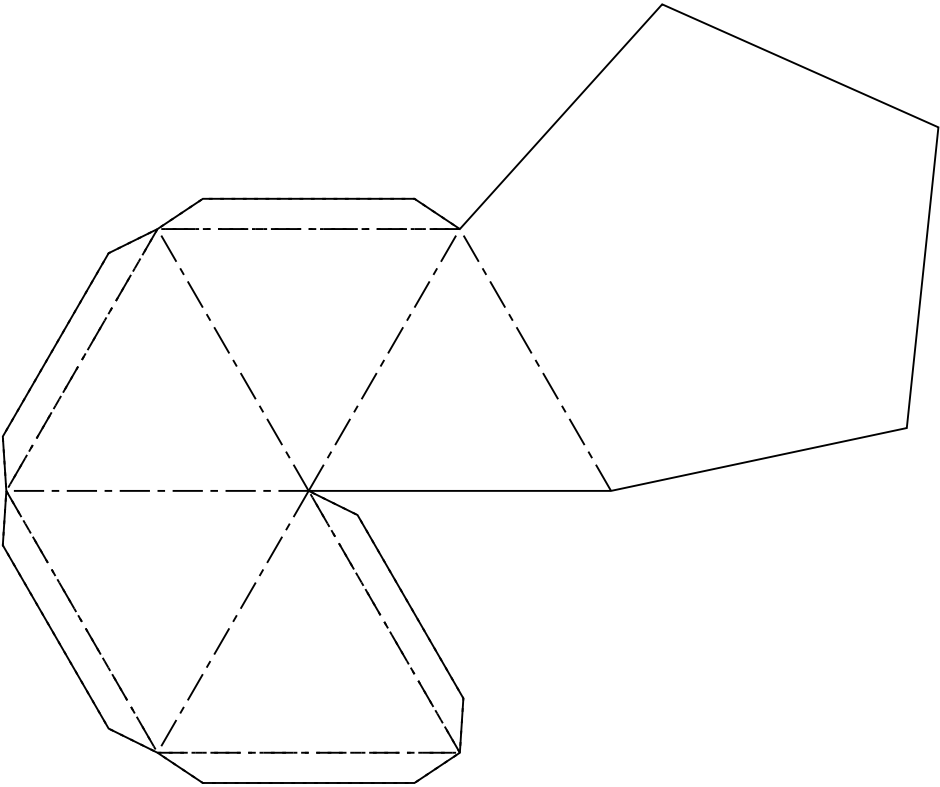


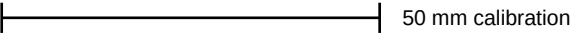
Equal-edge Pentagonal Pyramid

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P1 | cut 1
123.77 x 103.01 mm



Solid: cut | Dashed: valley | Dash-dot: mountain | Dotted: glue



Print at 100% / Actual size. Do not fit to page. Original paper craft template.

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Finished size: 61.554 x 64.721 x 21.029 mm; all ten edges 40 mm

Materials: 160-180 gsm paper; Scissors; Blunt scoring tool; Ruler; Protractor; Pencil; PVA glue; Tweezers

Original exact polyhedral net. Physical printing, cutting and assembly deferred.

One cut piece: five equilateral triangles T1-T5 and a regular pentagonal base B. Six shell faces, ten edges and six vertices; five integral tabs, five panel hinges.

Each triangle has 40 mm edges and 60 degree corners; altitude 34.641016 mm. Base circumradius = $40/(2 \sin(36 \text{ degrees})) = 34.026032$ mm; apex height = $\sqrt{40^2 - \text{radius}^2} = 21.029244$ mm.

Side-to-side folds turn 41.810315 degrees from flat (interior dihedral 138.189685 degrees). Base hinge and base tabs turn 142.622632 degrees from flat (interior dihedral 37.377368 degrees). These are not 90 degree folds.

Numbering key: lay the net printed side up with the missing 60-degree fan wedge at lower right. The initial free radius points right. O is the common apex. Number triangles T1-T5 counterclockwise from that radius. B is attached to T1. Pencil these names and matching seam numbers on the inside before assembly.

Seam 1: T5 terminal-radius tab to T1 initial free radius. Base seams 2, 3, 4, 5 are the outer tabs of T2, T3, T4, T5 respectively. On B, starting at the end of the T1 hinge adjacent to T2, number its four free edges 2, 3, 4, 5 around the perimeter. Mark both sides of every seam correspondence.

All scored folds are mountains with the printed side outside: fold away from the printed side. Apply glue to the printed side of tabs; tuck under the receiving face. Tabs are 4 mm deep, with 6 mm taper setbacks and 28 mm tips.

Rigid flat-to-assembled correspondence includes every tab. Zero paper and glue thickness is idealized; tab/receiver surfaces intentionally coincide. No stretched panels, extra hidden pieces or unlisted cuts. The preview shows the final shape, not a continuous folding simulation.

Part inventory (cut each instance once):

P1: Pyramid net: T1-T5 + B

1. Print, number and cut [P1]: Print at 100 percent actual size. Check the 50 mm ruler and a 40 mm triangle edge. Use the numbering key to pencil T1-T5, B and both ends of seams 1-5 on the inside. Cut only the outer perimeter, retaining all five tabs and the hinged base.
2. Score and pre-fold [P1]: Score four radial panel hinges, the T1-B hinge and five tab roots. Print stays outside. Mountain-fold radial hinges and tab 1 by 41.810 degrees from flat. Pre-fold the base hinge and tabs 2-5 by 142.623 degrees from flat (37.377 degrees inside). Reopen B for access.
3. Close the triangular fan [P1]: Bring the T5 terminal radius to the T1 initial radius. Match the apex O and the rim endpoints. Glue the printed face of tab 1 beneath T1 with a 4 mm overlap. Press through the open bottom and let set; leave B open. Do not curl the triangles.
4. Dry-fit the base [P1]: Turn the shell bottom-up without loading the apex. Swing B onto the rim and tuck tabs 2-5 inside beneath B. Match numbered edges exactly: 2 to T2, 3 to T3, 4 to T4, 5 to T5. All five base vertices must meet the rim vertices without bowing. Reopen B.
5. Attach the first base seam [P1]: Apply a thin glue film to tab 2 only. Swing B closed, keeping all tabs inside, and align seam 2. Press the overlap with tweezers through the unglued seam 5 opening; let tack. Keep seams 3-5 unglued for access, without forcing the scored hinge.
6. Close base seams 3 and 4 [P1]: Through the remaining opening, apply small amounts of glue to tabs 3 then 4. Align each numbered edge and press B onto the tab, using tweezers through seam 5 where reachable. Let these joints set before final closure. Keep the pentagon planar.

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7. Seal seam 5 and dry [P1]: Add a little glue to tab 5 through the last opening, tuck it fully beneath B and press gently from outside until tacky. Rest base-down on a flat surface and allow full drying without pressing the apex. Finished height is 21.029 mm. Physical assembly remains deferred pending a real print-and-build trial.