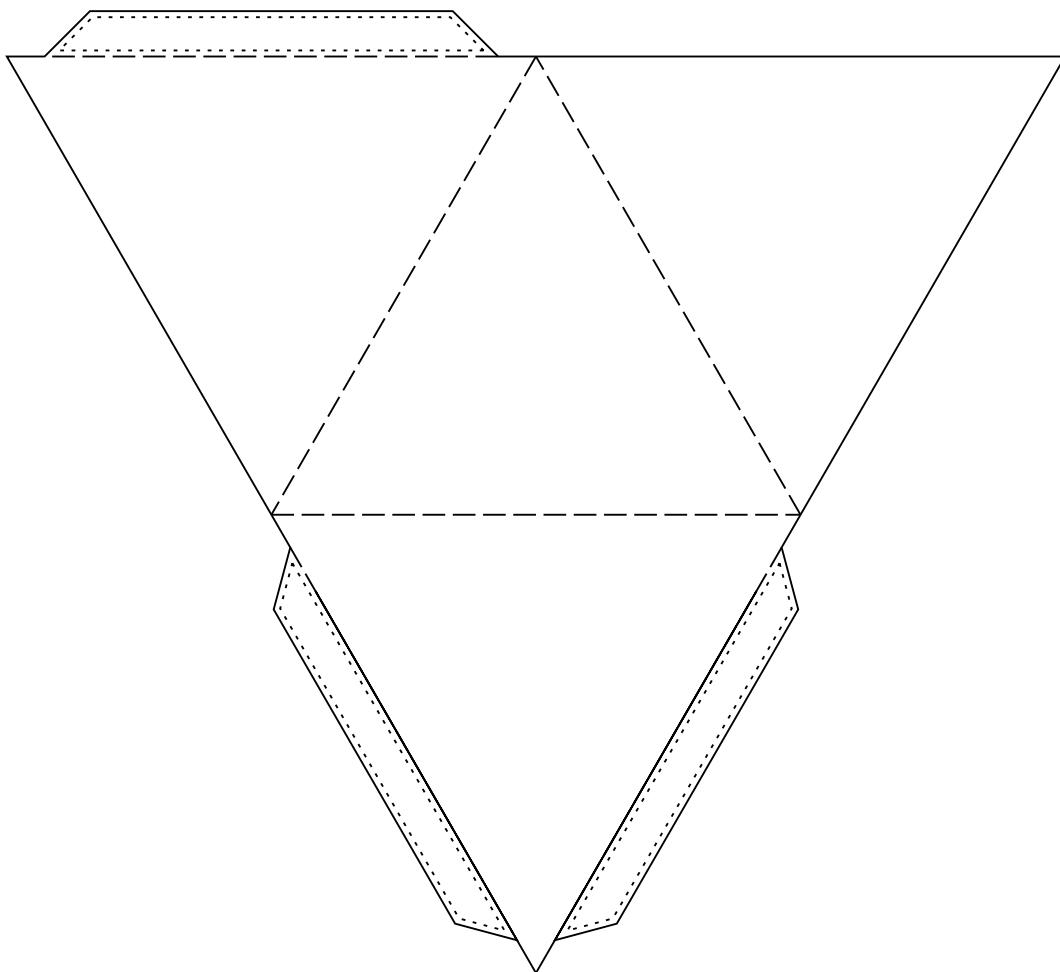


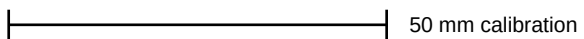
Regular Tetrahedron

tetrahedron / 1.0.0 / Letter / Template page 1

P1 | cut 1
140.00 x 127.24 mm



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



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

Regular Tetrahedron

tetrahedron / 1.0.0 / Letter / Assembly instructions

Finished size: 70 x 60.622 x 57.155 mm; all six edges 70 mm

Materials: 160-180 gsm cardstock; Scissors; Ruler; Blunt scoring tool; Pencil; PVA paper glue; Scrap card for spreading glue

Original exact rigid-face net. One cut piece, four equilateral faces, three integral tabs; no separate joining strips.

Internal dihedral $\arccos(1/3) = 70.528779$ degrees. Every face hinge and tab turns $\arccos(-1/3) = 109.471221$ degrees from flat, toward the printed interior.

Zero-thickness geometry: tabs intentionally coincide with receiving faces. Paper/glue thickness and crease springback require hand adjustment. No stretching is required.

S1 is glued first; F2 remains open for finger access. Close F2 over S2 then S3 last. Labels below are a pencil-marking key, not preprinted face text.

Physical printing, cutting and assembly pending. Preview shows final geometry, not a continuous folding simulation.

Part inventory (cut each instance once):

P1: Four-face net with S1-S3 integral tabs

1. Print, measure and label [P1]: Print at 100% actual size. Check the ruler is 50 mm and a central triangle edge is 70 mm. Hold the net with the central triangle pointing up: label its lower-left corner A, lower-right B, top C; its face F0. Label the lower outer triangle F1, right outer F2, left outer F3. Each outer tip becomes apex D. Pencil S1 on the left sloping tab of F1 and the matching free edge of F3; S2 on the right sloping tab of F1 and matching lower free edge of F2; S3 on the top tab of F3 and the top free edge of F2.
2. Cut and score [P1]: Cut the single solid outer perimeter, preserving all three tabs. Score the three 70 mm central hinges and three 60 mm tab hinges with a ruler and blunt tool. Do not cut dashed folds or dotted glue boundaries. Tabs are 6 mm deep, with 5 mm relief at each end of the seam and a 48 mm outer edge.
3. Pre-fold and dry fit [P1]: Printed side faces you and becomes the inside. Valley-fold all six hinges toward you by 109.471221 degrees from flat, leaving 70.528779 degrees inside the tetrahedron. Keep F0 horizontal. Raise F1 and F3 and bring their D tips together; leave F2 open. Dry-fit all three seams: tabs go inside the receiving faces, never outside. Reopen before gluing.
4. S1: join the first two walls [P1]: Spread a thin PVA film on the UNPRINTED reverse of the dotted S1 region of the F1 tab. The dotted region already leaves a 0.8 mm margin. Place S1 beneath the printed inside of F3 along A-D. Align the full 70 mm seam and both endpoints; the 6 mm tab lies inward from the edge. Pinch from inside through open F2 for 30-60 seconds, then let set for 3-5 minutes or per glue instructions.
5. S2: lower the last face [P1]: While F2 is still open, coat the UNPRINTED reverse of the dotted S2 and S3 regions lightly. Lower F2 about hinge B-C onto the two inward tabs. Seat its B-D edge on S2 first; align D with the other apex tips. Keep its C-D edge slightly lifted until S2 is aligned. Press F2 from outside over the 6 mm S2 strip for 30-60 seconds; no finger insertion into the closed solid is required.
6. S3: finish accessible closure [P1]: Set the remaining C-D edge of F2 onto S3 without reopening S1. Press the outside of F2 over the S3 strip, working from C toward D for 30-60 seconds while supporting F3 externally. Wipe excess glue and leave undisturbed for at least 10 minutes or the glue cure time. Check six 70 mm edges, closed seams, and height about 57.15 mm. Record any thickness or closing-access difficulty during the pending physical build.