Square Pyramid

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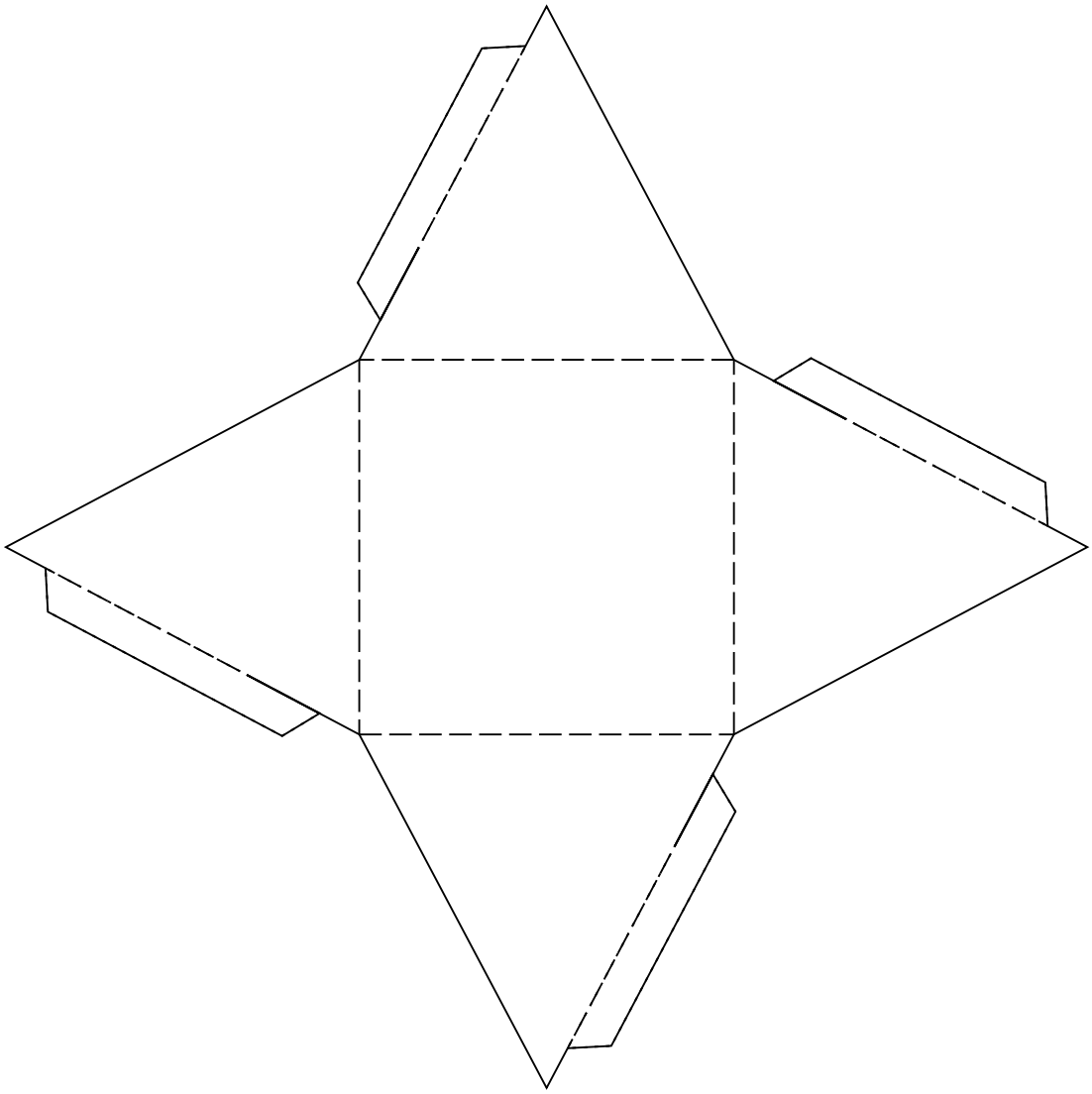
P1 | cut 1
144.34 x 144.34 mm



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

50 mm calibration

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

Square Pyramid

pyramid / 1.0.0 / A4 / Assembly instructions

Finished size: 50 x 50 x 40 mm

Materials: 160-180 gsm paper; Scissors; Ruler and blunt scoring tool; PVA glue; Tweezers for seam pressing

Original exact rigid-face net. Physical printing, cutting and assembly pending.

Base: 50 mm square. Each triangle: base 50 mm, altitude sqrt(2225) = 47.169906 mm, two equal edges sqrt(2850) = 53.385391 mm. Apex is 40 mm above base centre.

Base hinges rotate 122.005383 degrees from flat; final inside base/wall angle is 57.994617 degrees. Tab hinges rotate 73.686140 degrees from flat; inside wall/wall dihedral is 106.313860 degrees.

Tabs are 5 mm wide with 6 mm end relief and 3 mm bevels. Glue only tabs, keeping the relieved apex and base corners free of glue.

Zero-thickness geometry: tabs coincide with receiving wall interiors; real paper and glue thickness require hand adjustment. No stretching or extra cutting is intended.

Preview shows final geometry, not a continuous hinge animation. Screen review pending.

Part inventory (cut each instance once):

P1: Base + four walls + four tabs

1. Print, identify and cut [P1]: Print at 100% and check the 50 mm ruler. Cut the single outer perimeter, retaining all four tabs. Do not cut dashed hinges. Place printed side up: it becomes the inside. Call the triangles below, right, above and left of the square S, E, N and W.

2. Score and pre-fold [P1]: Score the four square edges and four short tab roots. All eight are valleys viewed from the printed side. Lift walls toward you 122.005 degrees from flat (past vertical); fold tabs toward the printed interior by 73.686 degrees. Reopen gently.

3. Dry fit the apex [P1]: Raise all four walls. Their tips must meet at one apex over the square centre and all 53.385 mm side edges must meet without gaps. Each tab goes under the adjacent wall: S tab under E, E under N, N under W, W under S. Keep the square base flat.

4. Glue the first two seams [P1]: Leave W open for access. Apply a thin coat to the unprinted side of the S tab; press it against the printed inside of E, aligning the cut edge exactly to the tab hinge. Then glue E tab inside N. Pinch through the open W side and allow both seams to set.

5. Close the last wall [P1]: Dry-fit W again. Apply thin glue to the unprinted sides of N and W tabs. Swing W up, tucking N tab inside W and W tab inside S. Align both full edges and the apex; use tweezers through the remaining opening while closing, then hold the outside seams gently until set. Do not crush the apex.

6. Dry and check [P1]: Let glue cure on a level surface. Check the 50 mm square base, 40 mm vertical height, four aligned apex tips and four closed side seams. Physical verification remains pending until a real print-cut-fold-glue trial is completed.