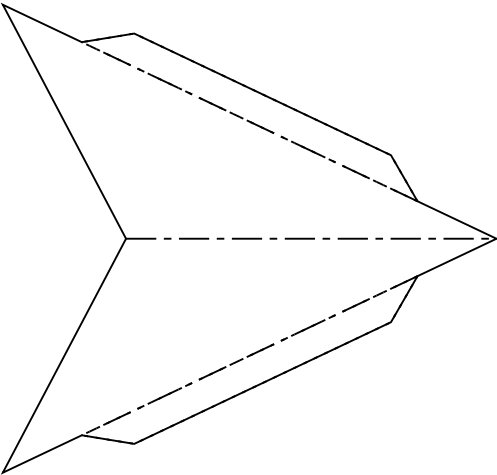


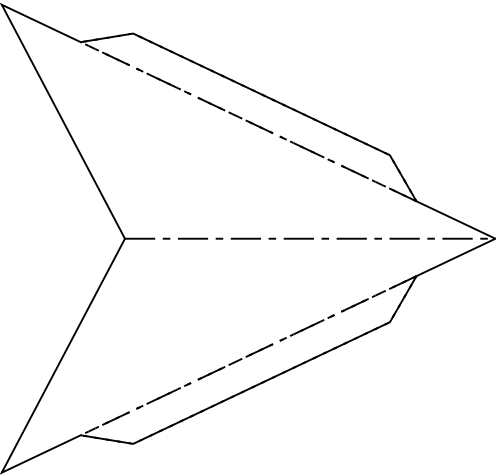
Faceted Five-Point Star

five-point-star / 1.0.0 / Letter / Template page 1

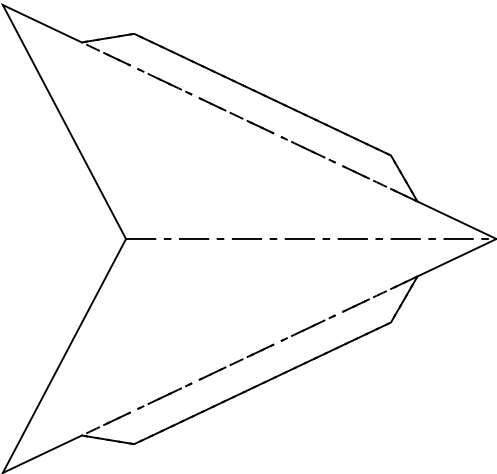
S10 | cut 1
65.31 x 61.91 mm



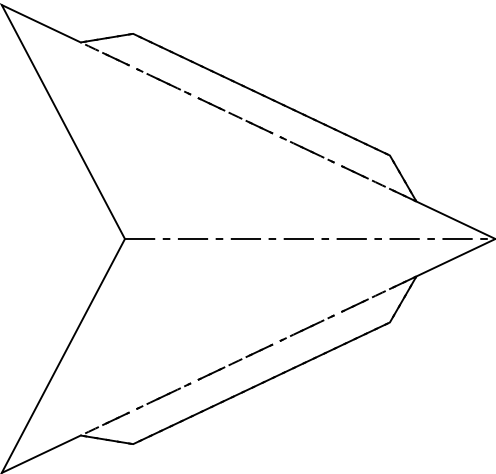
S02 | cut 1
65.31 x 61.91 mm



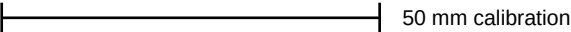
S04 | cut 1
65.31 x 61.91 mm



S06 | cut 1
65.31 x 61.91 mm



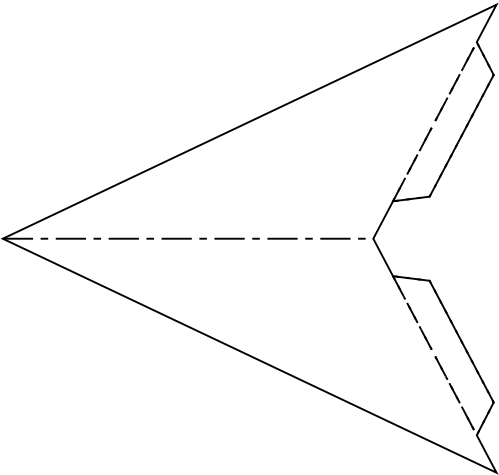
Solid: cut | Dashed: valley | Dash-dot: mountain | Dotted: glue



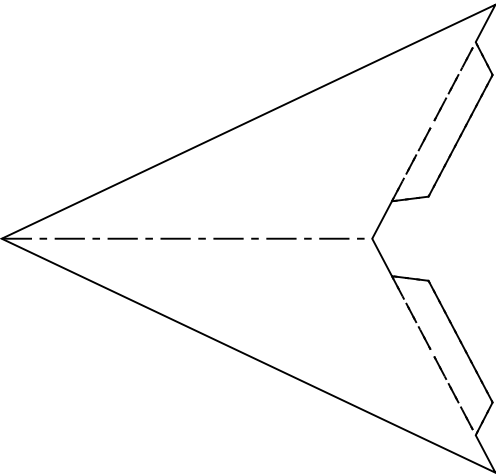
Faceted Five-Point Star

five-point-star / 1.0.0 / Letter / Template page 2

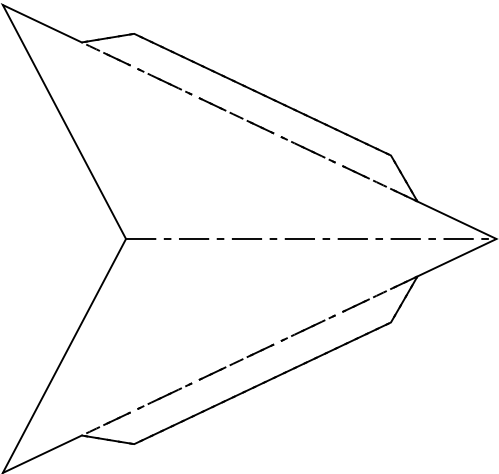
S03 | cut 1
65.31 x 61.91 mm



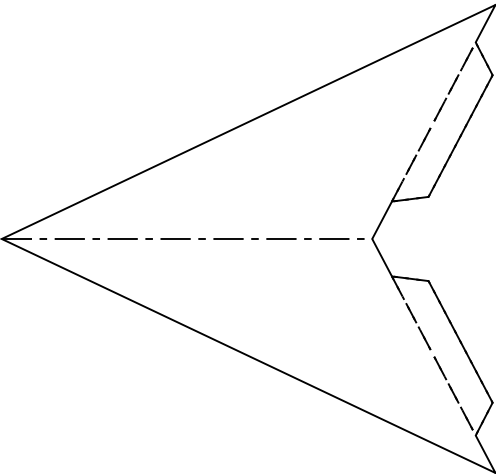
S05 | cut 1
65.31 x 61.91 mm



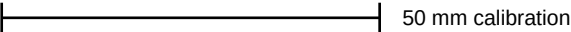
S08 | cut 1
65.31 x 61.91 mm



S01 | cut 1
65.31 x 61.91 mm



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

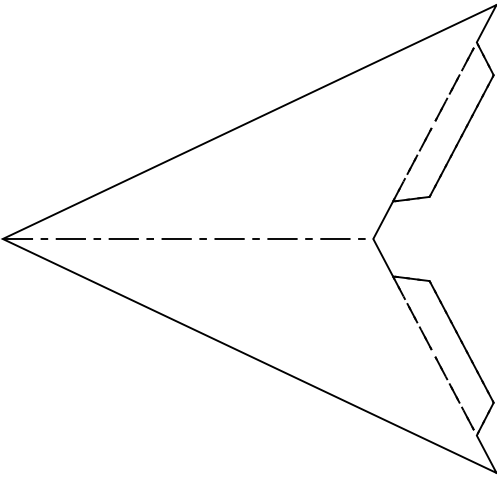


Print at 100% / Actual size. Do not fit to page. Original paper craft template.

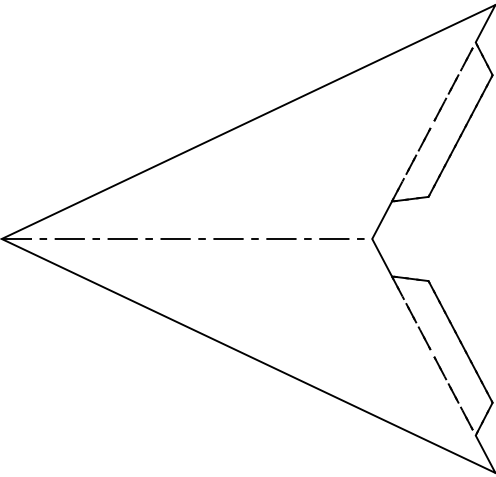
Faceted Five-Point Star

five-point-star / 1.0.0 / Letter / Template page 3

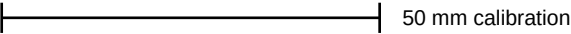
S07 | cut 1
65.31 x 61.91 mm



S09 | cut 1
65.31 x 61.91 mm



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



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

Faceted Five-Point Star

five-point-star / 1.0.0 / Letter / Assembly instructions

Finished size: 133.15 x 126.63 x 36.00 mm (width x height x thickness)

Materials: 160-180 gsm paper; Scissors or craft knife and cutting mat; Ruler and blunt scoring tool; Thin PVA craft glue; Pencil

Original exact polyhedral construction: outer radius 70 mm, inner radius 30 mm, centers at $z = \pm 18$ mm. Ten two-triangle cut pieces; 20 shell facets plus 20 integral trapezoid tabs. All facet and tab edges are isometric to their printed sources; this is not a flat star stretched upward.

Ring vertices V0-V9 run counterclockwise from the top outer tip. S01 spans V0-V1, S02 V1-V2, and so on; S10 spans V9-V0. Every sector joins the next, wrapping S10 to S01. C+ is the shared front center and C- the shared back center.

Tabs are 4 mm deep, with hinge endpoints at 16% and 84% of each radial edge and outer corners at 24% and 76%. Tab-to-receiver contact is modeled at zero paper thickness; real glue and cardstock thickness require careful edge alignment. No material stretching is modeled.

Automated geometry checks do not prove practical closure. Screen review and physical print/cut/assembly verification are pending, especially final seam access and multi-face center alignment.

Part inventory (cut each instance once):

S01: Sector 1: front + back

S02: Sector 2: front + back

S03: Sector 3: front + back

S04: Sector 4: front + back

S05: Sector 5: front + back

S06: Sector 6: front + back

S07: Sector 7: front + back

S08: Sector 8: front + back

S09: Sector 9: front + back

S10: Sector 10: front + back

1. Print, identify, cut and score [S01, S02, S03, S04, S05, S06, S07, S08, S09, S10]: Print all ten pieces at 100%; check the 50 mm ruler. Use 160-180 gsm paper. Cut only solid outlines, retaining both tabs on each piece. Score the three fold segments per piece. Place each template printed side up with its long equator score horizontal. Its left endpoint is A and right endpoint B; the triangle above is FRONT (C+), below is BACK (C-). Transfer S01-S10 and FRONT/BACK lightly to the inside before folding. Printed sides are outside; glue goes on the printed side of each tab.

2. Form the ten hinged facet pairs [S01, S02, S03, S04, S05, S06, S07, S08, S09, S10]: Mountain-fold each horizontal A-B equator score by 108.89 degrees from flat (inside opening 71.11 degrees). Keep both triangles planar. Precrease the tabs: odd-numbered pieces have valley tabs at recessed star corners; even-numbered pieces have mountain tabs at outer tips. Angles below are turns from flat, not interior angles. Never crease an unmarked line through a triangular facet.

3. Join S01 to S02 [S01, S02]: S01: A-B = 49.012 mm; the two face apexes are (65.312, ± 30.956) mm relative to A=(0,0), B=(49.012,0). Fold its two tabs valley by 36.84 degrees from flat. Glue its FRONT B-C+ tab underneath S02's untabbed FRONT A-C+ edge; likewise glue BACK B-C- underneath BACK A-C-. Match B of S01 to A of S02, C+ to C+, and C- to C-. Align full edges exactly, with the 4 mm tabs hidden inside. Join the front seam first, then its matching back seam. Keep the remaining sectors open for finger access; hold each overlap until tacky before adding the next sector.

Faceted Five-Point Star

five-point-star / 1.0.0 / Letter / Assembly instructions continued

4. Join S02 to S03 [S02, S03]: S02: A-B = 49.012 mm; the two face apexes are (-16.301, +/-30.956) mm relative to A=(0,0), B=(49.012,0). Fold its two tabs mountain by 65.71 degrees from flat. Glue its FRONT B-C+ tab underneath S03's untabbed FRONT A-C+ edge; likewise glue BACK B-C- underneath BACK A-C-. Match B of S02 to A of S03, C+ to C+, and C- to C-. Align full edges exactly, with the 4 mm tabs hidden inside. Join the front seam first, then its matching back seam. Keep the remaining sectors open for finger access; hold each overlap until tacky before adding the next sector.
5. Join S03 to S04 [S03, S04]: S03: A-B = 49.012 mm; the two face apexes are (65.312, +/-30.956) mm relative to A=(0,0), B=(49.012,0). Fold its two tabs valley by 36.84 degrees from flat. Glue its FRONT B-C+ tab underneath S04's untabbed FRONT A-C+ edge; likewise glue BACK B-C- underneath BACK A-C-. Match B of S03 to A of S04, C+ to C+, and C- to C-. Align full edges exactly, with the 4 mm tabs hidden inside. Join the front seam first, then its matching back seam. Keep the remaining sectors open for finger access; hold each overlap until tacky before adding the next sector.
6. Join S04 to S05 [S04, S05]: S04: A-B = 49.012 mm; the two face apexes are (-16.301, +/-30.956) mm relative to A=(0,0), B=(49.012,0). Fold its two tabs mountain by 65.71 degrees from flat. Glue its FRONT B-C+ tab underneath S05's untabbed FRONT A-C+ edge; likewise glue BACK B-C- underneath BACK A-C-. Match B of S04 to A of S05, C+ to C+, and C- to C-. Align full edges exactly, with the 4 mm tabs hidden inside. Join the front seam first, then its matching back seam. Keep the remaining sectors open for finger access; hold each overlap until tacky before adding the next sector.
7. Join S05 to S06 [S05, S06]: S05: A-B = 49.012 mm; the two face apexes are (65.312, +/-30.956) mm relative to A=(0,0), B=(49.012,0). Fold its two tabs valley by 36.84 degrees from flat. Glue its FRONT B-C+ tab underneath S06's untabbed FRONT A-C+ edge; likewise glue BACK B-C- underneath BACK A-C-. Match B of S05 to A of S06, C+ to C+, and C- to C-. Align full edges exactly, with the 4 mm tabs hidden inside. Join the front seam first, then its matching back seam. Keep the remaining sectors open for finger access; hold each overlap until tacky before adding the next sector.
8. Join S06 to S07 [S06, S07]: S06: A-B = 49.012 mm; the two face apexes are (-16.301, +/-30.956) mm relative to A=(0,0), B=(49.012,0). Fold its two tabs mountain by 65.71 degrees from flat. Glue its FRONT B-C+ tab underneath S07's untabbed FRONT A-C+ edge; likewise glue BACK B-C- underneath BACK A-C-. Match B of S06 to A of S07, C+ to C+, and C- to C-. Align full edges exactly, with the 4 mm tabs hidden inside. Join the front seam first, then its matching back seam. Keep the remaining sectors open for finger access; hold each overlap until tacky before adding the next sector.
9. Join S07 to S08 [S07, S08]: S07: A-B = 49.012 mm; the two face apexes are (65.312, +/-30.956) mm relative to A=(0,0), B=(49.012,0). Fold its two tabs valley by 36.84 degrees from flat. Glue its FRONT B-C+ tab underneath S08's untabbed FRONT A-C+ edge; likewise glue BACK B-C- underneath BACK A-C-. Match B of S07 to A of S08, C+ to C+, and C- to C-. Align full edges exactly, with the 4 mm tabs hidden inside. Join the front seam first, then its matching back seam. Keep the remaining sectors open for finger access; hold each overlap until tacky before adding the next sector.
10. Join S08 to S09 [S08, S09]: S08: A-B = 49.012 mm; the two face apexes are (-16.301, +/-30.956) mm relative to A=(0,0), B=(49.012,0). Fold its two tabs mountain by 65.71 degrees from flat. Glue its FRONT B-C+ tab underneath S09's untabbed FRONT A-C+ edge; likewise glue BACK B-C- underneath BACK A-C-. Match B of S08 to A of S09, C+ to C+, and C- to C-. Align full edges exactly, with the 4 mm tabs hidden inside. Join the front seam first, then its matching back seam. Keep the remaining sectors open for finger access; hold each overlap until tacky before adding the next sector.
11. Join S09 to S10 [S09, S10]: S09: A-B = 49.012 mm; the two face apexes are (65.312, +/-30.956) mm relative to A=(0,0), B=(49.012,0). Fold its two tabs valley by 36.84 degrees from flat. Glue its FRONT B-C+ tab underneath S10's untabbed FRONT A-C+ edge; likewise glue BACK B-C- underneath BACK A-C-. Match B of S09 to A of S10, C+ to C+, and C- to C-. Align full edges exactly, with the 4 mm tabs hidden inside. Join the front seam first, then its matching back seam. Keep the remaining sectors open for finger access; hold each overlap until tacky before adding the next sector.
12. Close S10 to S01 [S10, S01]: S10: A-B = 49.012 mm; the two face apexes are (-16.301, +/-30.956) mm relative to A=(0,0), B=(49.012,0). Fold its two tabs mountain by 65.71 degrees from flat. Glue its FRONT B-C+ tab underneath S01's untabbed FRONT A-C+ edge; likewise glue BACK B-C- underneath BACK A-C-. Match B of S10 to A of S01, C+ to C+, and C- to C-. Align full edges exactly, with the 4 mm tabs hidden inside. Dry-fit both final seams first. Apply glue to both tabs, tuck into S01, and pinch through the outer faces over each tab until set; do not flatten the raised centers. Use only a thin glue film because interior access is now closed.

Faceted Five-Point Star

five-point-star / 1.0.0 / Letter / Assembly instructions continued

13. Check the closed dimensional star [S01, S02, S03, S04, S05, S06, S07, S08, S09, S10]: Viewed from the front, S01 through S10 run counterclockwise starting at the top tip. Five outer tips and five recessed corners all lie on the equator plane. All front apexes meet 18 mm above that plane; all back apexes meet 18 mm below it. Check all twenty radial seams and ten scored equator hinges. Let dry fully without pressing the star flat. No filling, stretching, hidden center disk or extra cut is required. Actual printing and assembly remain pending.