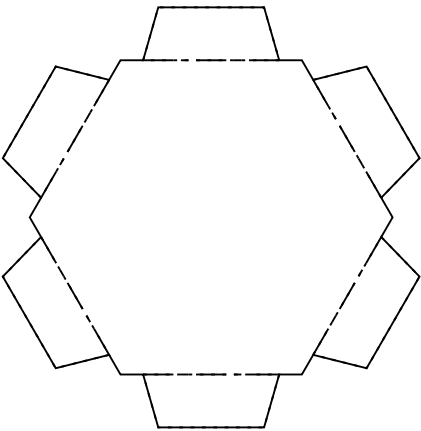


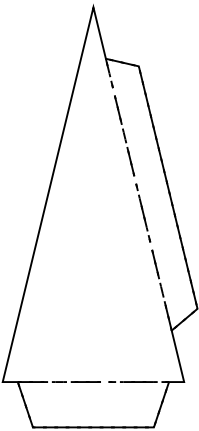
Faceted Display Rocket

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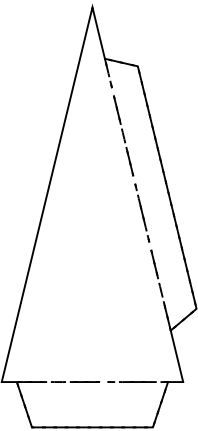
D | cut 1
55.12 x 55.57 mm



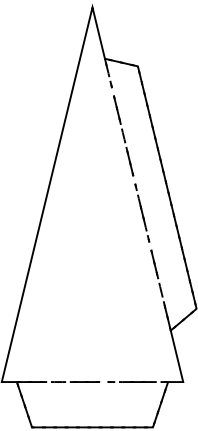
N2 | cut 1
25.77 x 55.57 mm



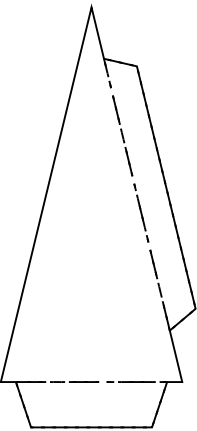
N3 | cut 1
25.77 x 55.57 mm



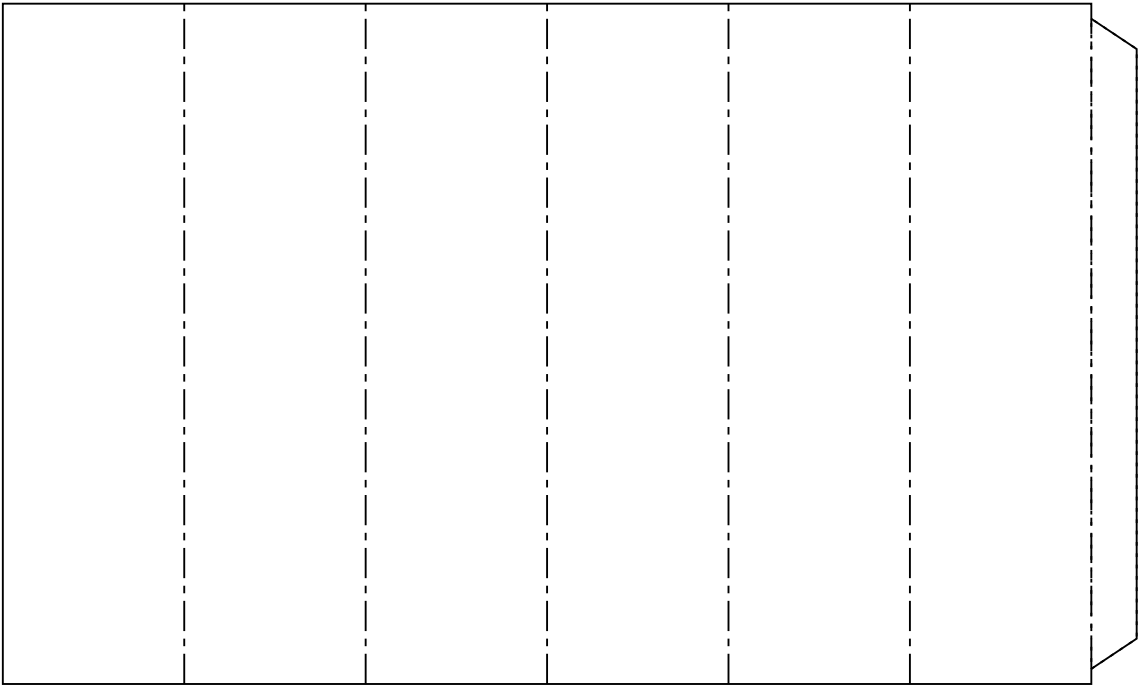
N4 | cut 1
25.77 x 55.57 mm



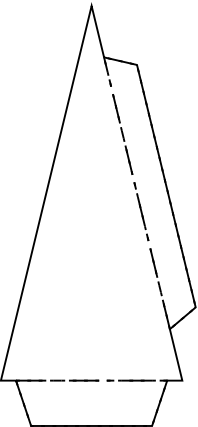
N5 | cut 1
25.77 x 55.57 mm



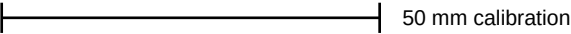
B | cut 1
150.00 x 90.00 mm



N1 | cut 1
25.77 x 55.57 mm



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

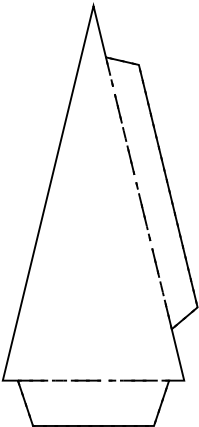


Print at 100% / Actual size. Do not fit to page. Original paper craft template.

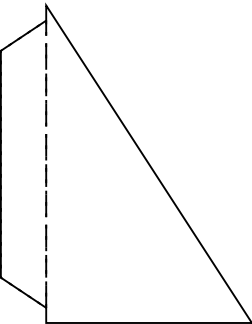
Faceted Display Rocket

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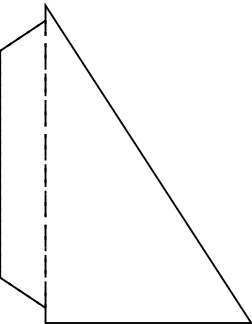
N6 | cut 1
25.77 x 55.57 mm



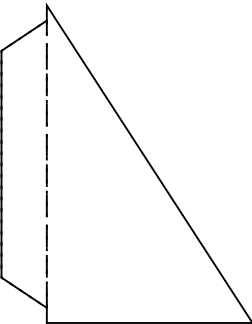
F1 | cut 1
33.22 x 42.00 mm



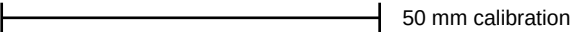
F2 | cut 1
33.22 x 42.00 mm



F3 | cut 1
33.22 x 42.00 mm



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



Faceted Display Rocket

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Finished size: 83.14 x 72 x 135 mm; body 48 x 41.57 x 90 mm

Materials: 200-240 gsm cardstock; Scissors or craft knife; Ruler and blunt scoring tool; PVA glue; Flat drying surface

Original decorative paper construction only; not a functional launch vehicle.

All panels and tabs have exact piecewise-rigid flat-to-assembled correspondence. The nose is a six-sided pyramid approximation of a cone, not a smooth cone.

Zero paper/glue thickness is idealized; mating tabs intentionally coincide with receiving faces. Finite stock thickness and crease allowances require physical fitting.

Bottom and fin lower edges share $z=0$. Three fin tips lie at radius 48 mm, 120 degrees apart; their ideal support triangle has 24 mm inradius. The centred symmetric paper assembly is geometrically supported; this does not prove resistance to knocks or fin buckling.

Physical printing, cutting, assembly and stability verification pending.

Part inventory (cut each instance once):

B: Hexagonal body

N1: Nose facet 1

N2: Nose facet 2

N3: Nose facet 3

N4: Nose facet 4

N5: Nose facet 5

N6: Nose facet 6

D: Bottom closure

F1: Stabilizer fin 1

F2: Stabilizer fin 2

F3: Stabilizer fin 3

1. Print, cut and score [B, D, N1, N2, N3, N4, N5, N6, F1, F2, F3]: Print at 100% actual size; verify the 50 mm ruler. Cut all 11 pieces, including every attached tab. Score dashed folds before forming. Use the printed face as the outside; glue is applied to tab faces that touch the interior shell.

2. Close the hexagonal body [B]: B has six 24 x 90 mm panels. Mountain-fold the five full-height lines and the seam hinge by 60 degrees from flat (120-degree inside corners). Glue the tapered 6 mm seam tab underneath the first panel; align top and bottom edges without overlapping the main panels. Hold square to the table until set.

3. Fit the flat bottom [D, B]: Fold all six D tabs upward 90 degrees toward the body interior. Glue their outward-facing surfaces inside the lower 7 mm of B. The hexagon has 24 mm edges: align each corner with a body crease and keep the bottom face flush with the body lower rim. Press from the open top and dry flat.

4. Attach three stabilizers [F1, F2, F3, B]: Valley-fold each fin flange 90 degrees away from its triangular blade. Attach F1, F2, F3 to body panels 1, 3, 5, counted from the first 24 mm panel opposite the seam tab end of the flat strip. Place the root at each panel midpoint (12 mm from either crease), blade perpendicular to the wall and pointing radially outward. The flange extends 6 mm toward the next panel crease, from 2 to 40 mm above the base. Keep all 27.22 mm blade bottom edges flush on the same table as D; dry fully.

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rocket / 1.0.0 / Letter / Assembly instructions continued

5. Join the nose facets [N1, N2, N3, N4, N5, N6]: Each nose facet has a 24 mm base and 49.57 mm face altitude. Mountain-fold the right sloping 4 mm tab inward about 54 degrees from flat (126-degree internal dihedral). Glue N1 tab under N2 left edge, then N2 under N3 through N6 under N1. Align apexes and base corners exactly; main triangles meet edge to edge. Work from the open underside, hold each seam until set, and leave the base tabs unglued.

6. Mount the pointed cap [N1, N2, N3, N4, N5, N6, B]: Fold each 6 mm base tab inward about 24.8 degrees from flat so it points vertically down when the nose is upright. Test-fit all six tabs inside the body top. Apply glue to tab outward faces, align nose corners to body creases, and seat the 24 mm base edges exactly on the body rim at 90 mm height. Hold gently until set; the apex should be centred at 135 mm overall height.

7. Dry and check the display stance [D, F1, F2, F3]: Leave upright on a flat surface until fully dry. Check the base and three fin bottoms sit level, all roots are bonded, and the centred rocket stands without support. Do not add a motor or launch it. Record actual paper weight, fit and stability after making; physical verification remains pending.