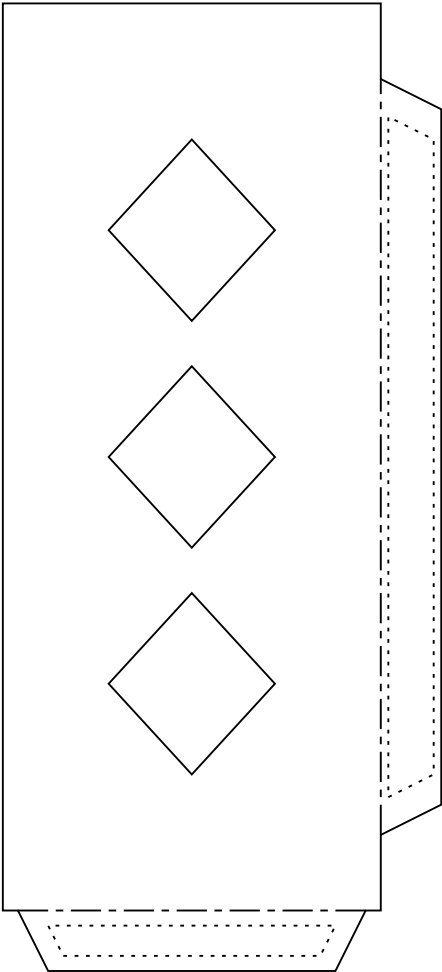


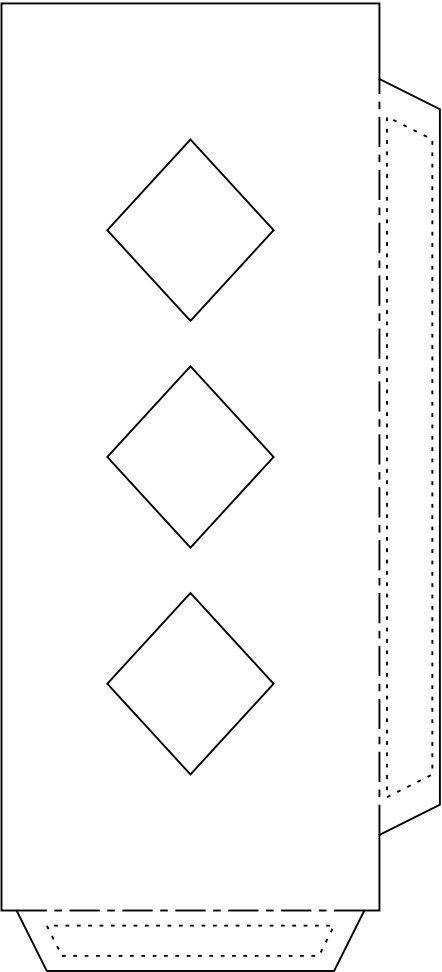
Hexagonal LED Lantern

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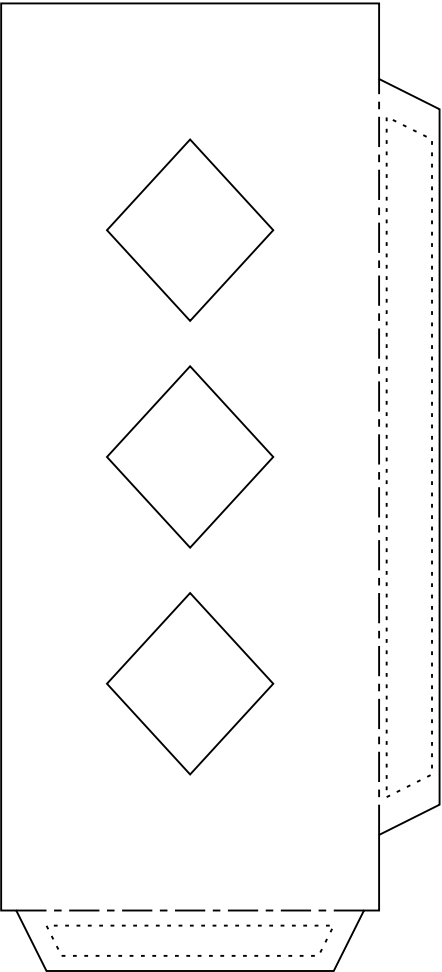
P1 | cut 1
58.00 x 128.00 mm



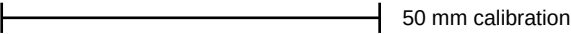
P2 | cut 1
58.00 x 128.00 mm



P3 | cut 1
58.00 x 128.00 mm



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

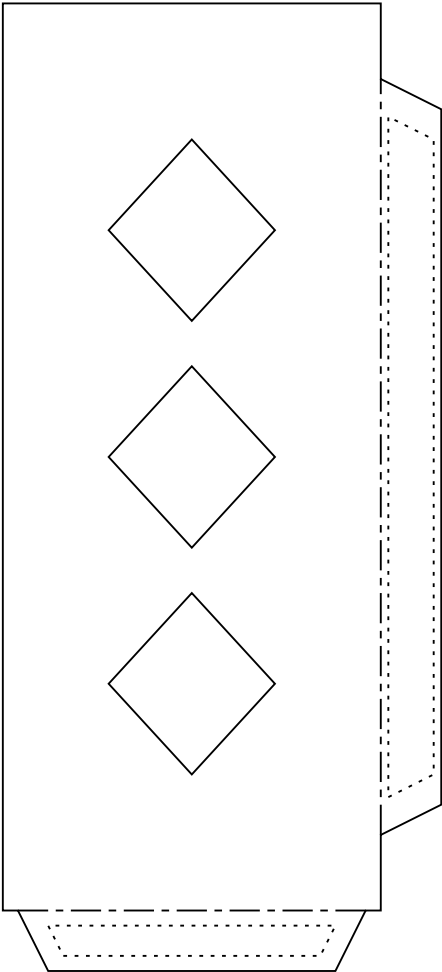


Print at 100% / Actual size. Do not fit to page. Original paper craft template.

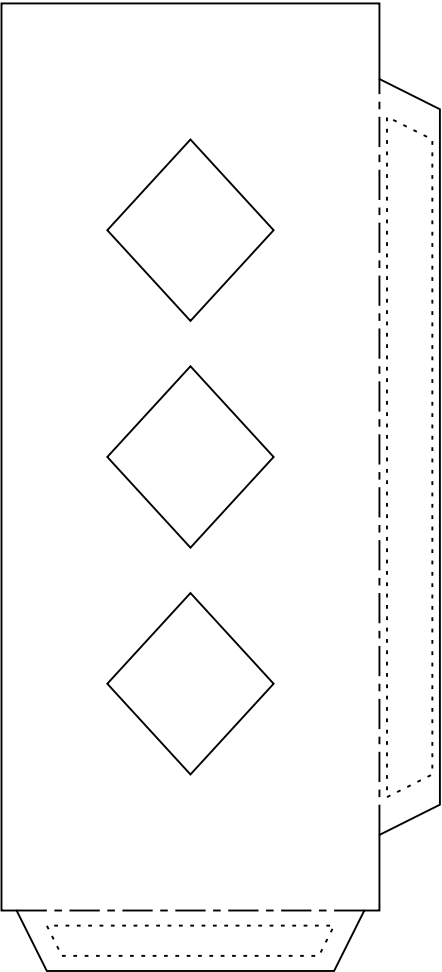
Hexagonal LED Lantern

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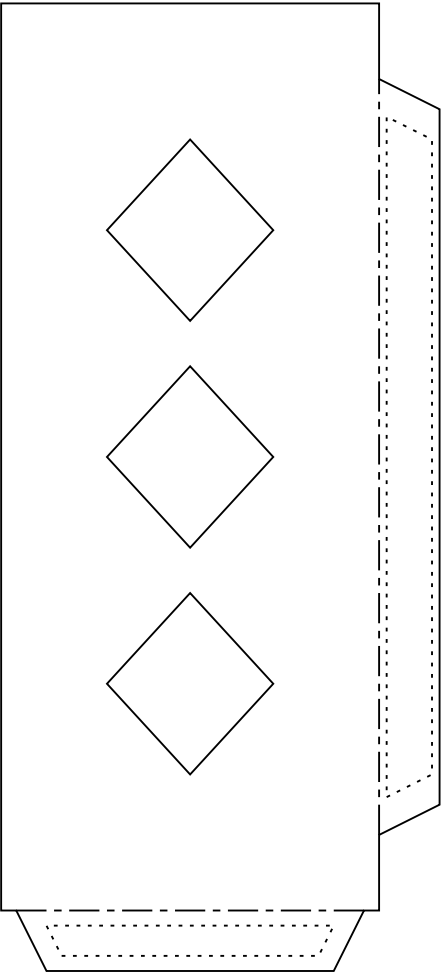
P4 | cut 1
58.00 x 128.00 mm



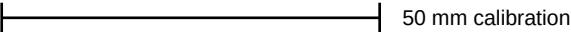
P5 | cut 1
58.00 x 128.00 mm



P6 | cut 1
58.00 x 128.00 mm



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

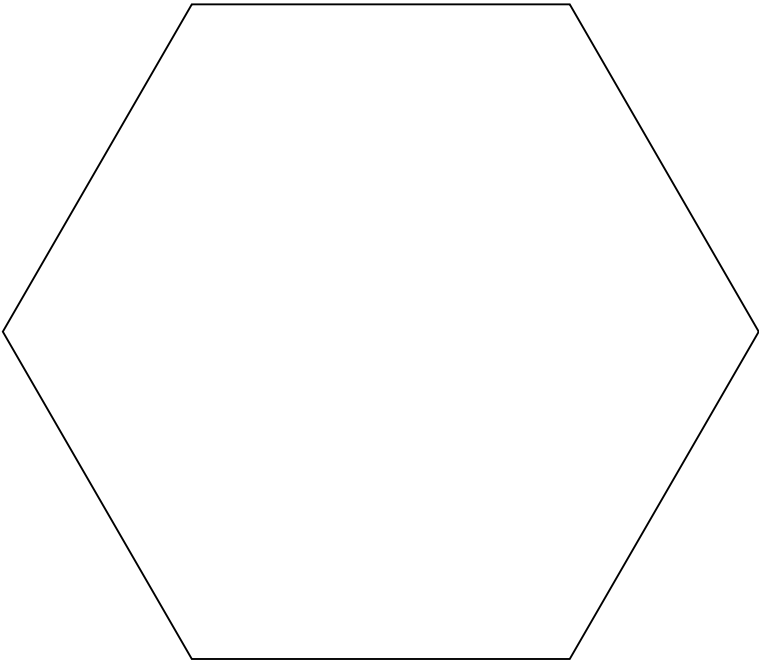


Print at 100% / Actual size. Do not fit to page. Original paper craft template.

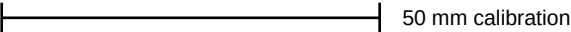
Hexagonal LED Lantern

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B1 | cut 1
100.00 x 86.60 mm



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



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

Hexagonal LED Lantern

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Finished size: 100 x 86.60254 x 120 mm; regular hexagon side 50 mm

Materials: 200-240 gsm cardstock; Craft knife and cutting mat; Metal ruler and blunt scoring tool; PVA glue; Small clips; Battery LED tealight, maximum 40 mm diameter x 45 mm high

LED ONLY. No candles, flames, fuel lights or hot lamps. Use a battery LED tealight only.

Original construction. Physical printing, cutting and assembly verification pending. This is a tabletop lantern; do not suspend or carry it by the paper walls.

Six walls P1-P6: each body 50 x 120 mm, cut bounds 58 x 128 mm including tabs. Each has three 22 x 24 mm diamond holes centered at (25,30), (25,60), (25,90) mm from the body lower-left corner. Side rails are at least 14 mm; inter-window bridges 6 mm.

B1 is a regular hexagon: six 50 mm edges, 100 mm corner-to-corner, $50\sqrt{3} = 86.60254$ mm across flats. The same open-top aperture gives permanent LED access.

Face correspondence: viewed from above, B1 vertex $V1=(50,0)$ mm; $V2=(25,43.30127)$, $V3=(-25,43.30127)$, $V4=(-50,0)$, $V5=(-25,-43.30127)$, $V6=(25,-43.30127)$. Pi spans V_i to $V_{(i+1)}$, wrapping V_7 to V_1 , at heights 0-120 mm.

Every wall has an 8 mm right lap tab, hinged between heights 10 and 110 mm. Its full-depth edge runs from height 14 to 106 mm. It sits behind the first 8 mm of the next wall, clear of all windows. P6 joins P1.

Each bottom support hinge spans $x=2$ to 48 mm; its 8 mm-deep free edge spans $x=6$ to 44 mm. These relieved trapezoids lie beneath B1 and do not collide at corners.

All meshes preserve exact flat triangle lengths, including holes and both integral tabs. Ideal zero-thickness paper: glued layers coincide; real cardstock thickness and fold radii are not simulated. No diffuser, lid, handle or LED is represented as paper geometry.

Part inventory (cut each instance once):

P1: Wall 1 with seam and base tabs

P2: Wall 2 with seam and base tabs

P3: Wall 3 with seam and base tabs

P4: Wall 4 with seam and base tabs

P5: Wall 5 with seam and base tabs

P6: Wall 6 with seam and base tabs

B1: Hexagonal floor - 50 mm edges

1. Calibrate and cut the six pierced walls [P1, P2, P3, P4, P5, P6]: Print at 100 percent. Measure the 50 mm ruler and a 50 x 120 mm body. Cut the three enclosed diamonds in each wall on a mat, then cut the outer perimeters without removing either tab. Score only the two marked hinges. Keep the 6 mm bridges intact; do not cut the fold lines.

2. Pre-fold and identify the laps [P1, P2, P3, P4, P5, P6]: Keep printed sides outside. Fold every right seam tab away from the printed face by 60 degrees from flat (120-degree internal corner). Fold each lower tab away from the print by 90 degrees toward the lantern interior. The 8 mm seam tab belongs beneath the next wall, never over a diamond.

3. Join the first three faces [P1, P2, P3]: Apply a thin film of glue to the printed face of P1 right tab. Align P2 left edge exactly with P1 seam hinge; bottom and top body edges must be level. Press the first 8 mm of P2 onto the tab. Repeat P2 to P3. Keep 120-degree inside corners; clip the solid rails and allow the joins to set.

4. Close the six-sided shell [P1, P2, P3, P4, P5, P6]: Repeat P3 to P4, P4 to P5 and P5 to P6 with 8 mm laps. Close P6 tab under P1 left

Hexagonal LED Lantern

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edge last, pressing through the open top. On a level surface, measure 50 mm between neighboring vertical hinges, 100 mm between opposite corners and 86.60 mm between opposite walls. Adjust before glue sets; all six lower tabs point inward at the same level. Let seams dry.

5. Fit and glue the hexagonal floor [B1, P1, P2, P3, P4, P5, P6]: Cut B1 and verify all six edges are 50 mm. Lower it through the open top with its unprinted face down; rotate so every edge meets one wall bottom, not a corner. Dry-fit on the six 8 mm support tabs. Remove B1, put glue on the upward/reverse face of each lower tab (opposite its printed GLUE mark), and replace B1. Press its six edge zones down against the tabs on a flat table. Keep the floor level; allow PVA to dry fully.

6. Insert and service the LED through the top [B1, P1, P2, P3, P4, P5, P6]: Confirm the floor is bonded at all six supports and the shell stands level. Switch on a battery LED tealight no larger than 40 mm diameter x 45 mm high and lower it through the 86.60 mm across-flats top opening onto the center of B1. Leave the top open; lift the LED out to switch it off or replace batteries. LED ONLY - no candles or flame. Actual assembly testing remains pending.