Draw a Roof: Comparing Gable and Hip Forms

Original tasks 1, 2, 3 / complete keys

Task 1

Draw a gable roof on an 8 cm eave line with a 4 cm ridge height. Label the ridge and both slopes.

Answer: A triangle with an 8 cm base, two straight lines rising to a ridge point 4 cm above the baseline, a short horizontal ridge mark, and labels RIDGE and SLOPE on the correct lines.

Reason: The gable side view is a triangle because two sloping planes meet at one ridge point. Equal slope lines keep the roof symmetrical.

Check: Measure the base is 8 cm and the ridge is 4 cm above it. Confirm two straight sloping lines meet at one point and both are labelled.

Task 2

Draw a hip roof on a 10 cm eave line with a 5 cm ridge height and a 4 cm ridge line. Label the ridge and hip slopes.

Answer: A trapezoid with a 10 cm base, a centred 4 cm horizontal ridge 5 cm above the baseline, two straight connecting lines, and labels RIDGE and HIP SLOPE.

Reason: A hip roof slopes on all sides, so the side view shows a flat ridge line rather than a point. The ridge must be shorter than the eave and centred.

Check: Measure the ridge is 4 cm and centred, the height is 5 cm, and the outline has four straight sides with correct labels.

Task 3

Draw both roofs side by side on 9 cm eave lines at the same 4.5 cm ridge height. Make the hip ridge 3 cm. Add a dashed line between the ridge labels marked SAME HEIGHT.

Answer: Left column: gable triangle with a ridge point at 4.5 cm. Right column: hip trapezoid with a centred 3 cm ridge at 4.5 cm. A dashed line connects the two ridge labels and is marked SAME HEIGHT.

Reason: Equal eave lengths and equal ridge heights control the comparison so only the roof form differs. The dashed line makes the controlled height explicit.

Check: Check both baselines are 9 cm, both ridge heights are 4.5 cm, the hip ridge is 3 cm and centred, and the dashed line is labelled.

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Original tasks 4 / complete keys

Task 4

A sketch shows a roof with a pointed top and a note saying hip roof. Identify the error and describe the corrected drawing.

Answer: The pointed top is a gable feature. The corrected hip roof should have a short horizontal ridge line shorter than the eave, centred above it, with two sloping lines connecting the eave ends to the ridge ends.

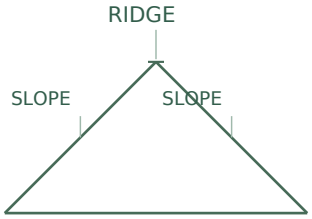
Reason: A hip roof slopes on all sides, so its side view has a flat ridge line, not a point. A pointed top would mislead the viewer about the roof form.

Check: Confirm the corrected outline is a trapezoid with a centred ridge shorter than the eave and that the label matches the form.

Draw a Roof: Comparing Gable and Hip Forms

Task 1 / answers

Roof-form teaching schematics / labelled lengths print 1:2 / not a full building projection

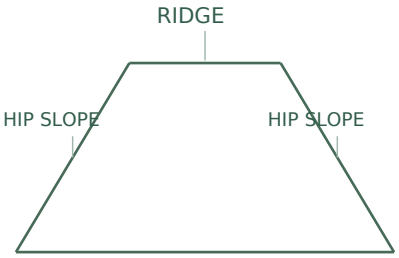


Eave 8 cm; ridge height 4 cm. The two slopes meet at the central ridge point.

Draw a Roof: Comparing Gable and Hip Forms

Task 2 / answers

Roof-form teaching schematics / labelled lengths print 1:2 / not a full building projection



Eave 10 cm; ridge height 5 cm. The horizontal ridge is 4 cm long.

Draw a Roof: Comparing Gable and Hip Forms

Task 3 / answers

Roof-form teaching schematics / labelled lengths print 1:2 / not a full building projection



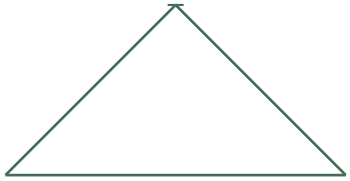
Each eave is 9 cm; both ridges are 4.5 cm high. The horizontal hip ridge is 3 cm, centered on its eave.

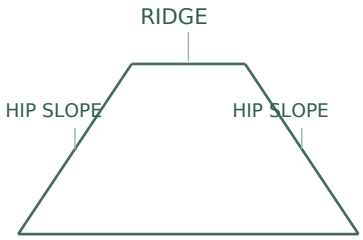
Draw a Roof: Comparing Gable and Hip Forms

Task 4 / answers

Roof-form teaching schematics / labelled lengths print 1:2 / not a full building projection

GIVEN / wrong label





One corrected hip profile

The source pointed profile was labelled hip. This lesson key uses a shorter horizontal centered ridge for the corrected hip profile. Dimensions on this comparison are chosen examples.

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Source rubric / reflection

- [ ] Both roofs share the same eave length and ridge height level.
- [ ] Gable outline is a triangle with two straight sloping edges meeting at a ridge point.
- [ ] Hip outline is a trapezoid with a short centred ridge line shorter than the eave.
- [ ] Every ridge and slope line is labelled clearly and correctly.
- [ ] Letter height follows the baseline-to-midline convention consistently.
- [ ] No texture, shading or unlabelled construction lines remain.

Reflection: What did you check, what did you change, and what will you try next?