Draw a Shed Front Elevation: Door, Window, and Roof

Original tasks 1, 2, 3 / complete keys

Task 1

A shed front wall is 8 units wide and 6 units high. A centered door is 2 units wide and 4 units high. Where are the door sides measured from the left wall edge, and where is the door top measured from the baseline?

Answer: Door sides are at 3 units and 5 units from the left wall edge. Door top is 4 units above the baseline.

Reason: The wall center is 4 units from the left edge. Half the door width is 1 unit, so the sides are 4 minus 1 = 3 and 4 plus 1 = 5. The door height is 4 units, measured up from the baseline.

Check: Add the door width: 5 minus 3 = 2 units, matching the given width. Confirm the door is centered: 3 units of wall on the left and 8 minus 5 = 3 units on the right.

Task 2

A front-elevation shed has a 12-unit-wide wall and a roof peak 3 units above the wall top. If the wall is 8 units high, what is the peak height above the baseline? Describe how to check that the peak is centered.

Answer: Peak height is 11 units above the baseline. To check centering, measure 6 units from each top wall corner to the peak's vertical line; both distances should match.

Reason: Peak height above baseline equals wall height plus roof rise: 8 + 3 = 11 units. The wall center is half of 12, which is 6 units from either corner.

Check: Subtract the wall height from the peak height: 11 minus 8 = 3 units, matching the roof rise. Compare the two horizontal distances to the peak line; they should both be 6 units.

Task 3

A window is 3 units wide and 2 units high. It is centered above a door whose top is 5 units above the baseline, with a 1-unit gap between door top and window bottom. What are the window bottom and top heights above the baseline, and what are the window side positions if the wall is 10 units wide?

Answer: Window bottom is 6 units above the baseline; window top is 8 units above the baseline. Window sides are 3.5 units and 6.5 units from the left wall edge.

Reason: Window bottom equals door top plus gap: 5 + 1 = 6 units. Window top equals bottom plus window height: 6 + 2 = 8 units. The wall center is 5 units from the left edge; half the window width is 1.5 units, so sides are 5 minus 1.5 = 3.5 and 5 plus 1.5 = 6.5.

Check: Check window height: 8 minus 6 = 2 units. Check window width: 6.5 minus 3.5 = 3 units. Check centering: 3.5 units of wall on the left and 10 minus 6.5 = 3.5 units on the right.

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Original tasks 4 / complete keys

Task 4

A shed drawing uses a 1-unit grid. The wall is 9 units wide and 7 units high. The roof peak is 2 units above the wall top. A door 3 units wide and 5 units high is centered. A window 2 units wide and 1 unit high is centered 1 unit above the door. List the key heights above the baseline and the horizontal positions from the left wall edge for the door and window sides.

Answer: Door sides: 3 units and 6 units from the left edge; door top: 5 units above baseline. Window sides: 3.5 units and 5.5 units from the left edge; window bottom: 6 units above baseline; window top: 7 units above baseline. Roof peak: 9 units above baseline.

Reason: Wall center is 4.5 units from the left edge. Door half-width is 1.5 units, so door sides are 4.5 minus 1.5 = 3 and 4.5 plus 1.5 = 6. Window half-width is 1 unit, so window sides are 4.5 minus 1 = 3.5 and 4.5 plus 1 = 5.5. Door top is 5 units. Window bottom is 5 + 1 = 6 units; window top is 6 + 1 = 7 units. Roof peak is 7 + 2 = 9 units above baseline.

Check: Check door width: 6 minus 3 = 3 units. Check window width: 5.5 minus 3.5 = 2 units. Check window height: 7 minus 6 = 1 unit. Check roof rise: 9 minus 7 = 2 units. Confirm centering by comparing left and right wall margins: door has 3 units on each side; window has 3.5 units on each side.

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Source rubric / reflection

- [ ] Wall is drawn as a rectangle with vertical sides and horizontal top and bottom lines.
- [ ] Roof is shown as two straight slopes meeting at a single peak; peak is centered or clearly balanced.
- [ ] Door is a rectangle standing on the baseline with vertical sides and a horizontal top.
- [ ] Window is a rectangle with sides parallel to the wall and does not overlap the door.
- [ ] Ground line is parallel to the baseline and does not slant.
- [ ] Construction lines are light and final outlines are clear enough to read the structure.
- [ ] Valid alternative layouts are accepted if the door, window, and roof remain readable and the lines stay parallel or straight as required.

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