Draw a Winter Window: Frame, Frost, and Sill Construction

Original task 1 / independent drawing and calculation

Task 1

Draw an outer frame 12 cm wide by 16 cm tall with a 1.5 cm border on all sides. Add one vertical mullion 1 cm wide centered in the opening. Calculate the opening width and the width of each pane.

Keep the original task measurements. Use the full drawing sheet in this PDF for a response needing more room; use the stated paper size when a task specifies larger paper.

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Original task 2 / independent drawing and calculation

Task 2

An opening is 10 cm wide and 14 cm tall. A horizontal mullion 1 cm tall is placed at mid-height. Calculate the height of each pane above and below the mullion.

Keep the original task measurements. Use the full drawing sheet in this PDF for a response needing more room; use the stated paper size when a task specifies larger paper.

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Original task 3 / independent drawing and calculation

Task 3

A frame is 10 cm wide. The sill is 1.5 cm tall and extends 1 cm beyond the frame on each side. Calculate the sill width and state one check for centering.

Keep the original task measurements. Use the full drawing sheet in this PDF for a response needing more room; use the stated paper size when a task specifies larger paper.

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Original task 4 / independent drawing and calculation

Task 4

In a 9 cm by 13 cm opening, a student draws frost lines starting at corners with side branches at 30 and 60 degrees. They keep branch lengths under 3 cm and leave a 3 cm clear center. State two checks that the frost convention is consistent and contained.

Keep the original task measurements. Use the full drawing sheet in this PDF for a response needing more room; use the stated paper size when a task specifies larger paper.

Full drawing sheet / reusable blank workspace

Reusable full drawing sheet for Tasks 1 to 4. Print another copy when needed. Keep all original task measurements; if a task specifies larger paper, use that paper size.

Task 1 / practice

Window construction / printed diagram scale 1:2 of the labelled hypothetical lengths

Use the original numerical question to construct the frame, opening or sill in the empty work area. Record your own calculations before comparing the separate key.

Calculation / check: _____

Task 2 / practice

Window construction / printed diagram scale 1:2 of the labelled hypothetical lengths

Use the original numerical question to construct the frame, opening or sill in the empty work area. Record your own calculations before comparing the separate key.

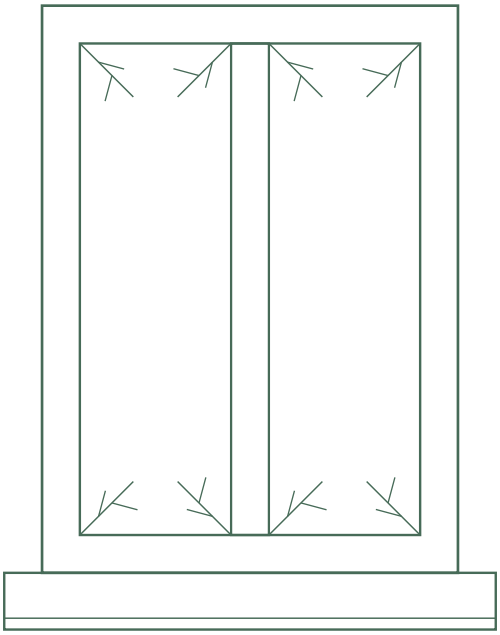
Calculation / check: _____

Window construction / printed diagram scale 1:2 of the labelled hypothetical lengths

Use the original numerical question to construct the frame, opening or sill in the empty work area. Record your own calculations before comparing the separate key.

Calculation / check: _____

Window construction / printed diagram scale 1:2 of the labelled hypothetical lengths



Given: 9 x 13 cm opening; 30/60 degree side branches; lengths under 3 cm.

Chosen supporting frame, 1 cm vertical bar and 3 x 3 cm clear-center square are illustrative. Branch angles are measured from each main frost line, not the paper edge.

Your two checks: _____

_____