Draw an Antique Balance Scale with Beam Symmetry and Pan Suspension

Original task 1 / independent drawing and calculation

Task 1

A student draws a beam with a left half-length of 6 cm and a right half-length of 5.5 cm. The drop lines are both 4 cm. Identify the symmetry error and state the corrected right half-length.

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

A drawing has pan half-widths of 2.5 cm on the left and 2.5 cm on the right, but the left pan centre is 1 cm farther from the central axis than the right pan centre. Describe how to check and correct the pan placement.

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 base is drawn with a left half-width of 4 cm and a right half-width of 4.5 cm. The central column is on the axis. State the base symmetry error and give a corrected right half-width.

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

A student uses a beam half-length of 7 cm, drop lines of 5 cm, pan half-width of 4 cm, and base half-width of 5 cm. All left and right measurements match. Describe the construction steps and the final symmetry check.

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.