Draw a Portrait Upside Down: A Brain-Teaser Exercise

Original task 1 / independent drawing and calculation

Task 1

Prepare two identical blank frames 10 cm by 10 cm. Place an upside-down portrait reference beside them. Draw only the outer boundary of the head and shoulders using straight segments, then flip both upright and compare overall height and width. Record one measured difference in centimeters.

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

Using an upside-down reference, draw one small region without naming it. Before drawing, write the start point, direction, and length of the first line in centimeters as a hypothetical example. After drawing, measure the same line and record the difference.

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

Measure the x-height of lowercase letters in a printed label on your reference. Record the value in centimeters as a hypothetical example. Then draw a short curve from the upside-down reference twice: once as one smooth stroke and once as three short segments. Flip both upright and decide whether both versions satisfy a stated position tolerance.

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

Complete a full upside-down copy on a blank frame. After flipping upright, list three measured differences in centimeters and one qualitative observation about stroke sequence. State whether each difference is within your pre-set tolerance.

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.