Upside-Down Portrait Drawing: A Perceptual Shift Exercise

Original tasks 1, 2, 3 / complete keys

Task 1

A hypothetical inverted reference is 10 cm wide and 14 cm tall. Your border is 5 cm wide. The distance from the left edge of the face to the right edge is 8 cm. What scaled distance should you use, and what is the border height?

Answer: Scaled width distance is 8 × (5/10) = 4 cm. Border height is 14 × (5/10) = 7 cm.

Reason: The border ratio is 5/10 = 1/2. Multiply every reference measurement by 1/2. The height follows the same ratio.

Check: Verify 4 cm is half of 8 cm and 7 cm is half of 14 cm; confirm the border ratio 5:7 equals 10:14.

Task 2

An inverted reference has a hair mass whose top edge runs from 10 o'clock to 2 o'clock on the reference sheet. Your orientation arrow points toward you on both sheets. Describe the same edge on your paper using clock directions, and state one orientation check you would perform.

Answer: The edge also runs from 10 o'clock to 2 o'clock on your paper. Check that both orientation arrows point toward you before drawing.

Reason: When both sheets share the same orientation, clock directions transfer directly. The arrow check confirms the shared orientation.

Check: Compare the drawn edge to the reference edge after rotating neither sheet; both should read 10 to 2.

Task 3

A hypothetical reference is 16 cm tall. The top-to-eye distance is 7 cm and the eye-to-chin distance is 6 cm. Your border is 8 cm tall. Scale both distances and state the position of the chin mark from the top edge.

Answer: Ratio is 8/16 = 1/2. Top-to-eye is 3.5 cm; eye-to-chin is 3 cm. The chin mark is 3.5 + 3 = 6.5 cm from the top edge.

Reason: Scale each distance by the border ratio, then add them to locate the chin mark.

Check: Confirm 3.5 + 3 = 6.5 cm is less than the 8 cm border height, and each scaled value is half its reference value.

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Original tasks 4 / complete keys

Task 4

You add a label with lowercase letters. The baseline is 2 cm above the bottom border edge and the midline is 1 cm above the baseline. Where is the x-height measured from and to, and what is its value?

Answer: X-height is measured from the baseline to the midline. Its value is 1 cm.

Reason: The convention defines x-height as baseline to midline. Subtract the baseline position from the midline position: 3 cm minus 2 cm equals 1 cm.

Check: Measure the vertical gap between the drawn baseline and midline; it should equal 1 cm, and both lines should align with the orientation arrow.

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Source rubric / reflection

- [ ] Orientation arrows on reference and drawing match at start and end.
- [ ] Border rectangle ratio matches the measured reference ratio.
- [ ] At least three key distances are recorded and scaled consistently.
- [ ] Outer head boundary is built from straight segments before detail.
- [ ] Lettering, if present, uses a defined baseline and midline; omission is valid.
- [ ] Final comparison uses measured distances, not resemblance alone.

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