Mirror Self-Portrait Drawing with Proportion Guides

Original tasks 1, 2, 3 / complete keys

Task 1

On a guide sheet, the top of the head is at 0 cm and the chin is at 20 cm. Using the lesson convention, calculate the eye line, nose line, and mouth line positions.

Answer: Eye line at 10 cm; nose line at 15 cm; mouth line at about 16.7 cm.

Reason: Eye line is half of 20, so 10 cm. Nose line is halfway between 10 and 20, so 15 cm. Mouth line is one-third of the way from 15 to 20: the gap is 5 cm, one-third is about 1.7 cm, so 15 + 1.7 = 16.7 cm.

Check: Add the gaps: 10 cm to eye, 5 cm to nose, 1.7 cm to mouth, and 3.3 cm to chin. The total is 20 cm.

Task 2

A student measures head width as 12 cm and shoulder width as 30 cm in the mirror. They draw the head 6 cm wide on paper. Using the same scale, how wide should the shoulders be?

Answer: 15 cm.

Reason: The paper head is half the mirror head width (6 cm vs 12 cm). The same half scale applied to 30 cm shoulders gives 15 cm.

Check: Check the ratio: 6/12 = 0.5 and 15/30 = 0.5. The scale is consistent.

Task 3

In a mirror check, a student finds the space between the eyes is about 2.5 cm and each eye is about 2.5 cm wide. They drew the eyes 3 cm apart and 2 cm wide. Describe one adjustment and one check.

Answer: Adjust the eye spacing closer to 2.5 cm or adjust eye width toward 2.5 cm, then recheck the total width across both eyes and the gap.

Reason: The mirror observation gives equal eye width and gap at about 2.5 cm. The drawing is inconsistent with that observation, so one or both values should be revised.

Check: Measure the drawn gap and eye width with the same unit, compare to the mirror values, and confirm the total across both eyes plus the gap matches the observed total.

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Original tasks 4 / complete keys

Task 4

A student sets the eye line at 8 cm, nose line at 12 cm, and chin at 18 cm. Is the nose line halfway between the eye line and chin? Show the arithmetic.

Answer: No. Halfway between 8 cm and 18 cm is 13 cm, not 12 cm.

Reason: The gap from eye line to chin is 10 cm. Half of that is 5 cm, so the halfway point is 8 + 5 = 13 cm. The student's nose line at 12 cm is 1 cm above the halfway point.

Check: Subtract: 13 - 8 = 5 cm and 18 - 13 = 5 cm. The halfway point must have equal gaps on both sides.

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Source rubric / reflection

- [ ] Symmetry line and three horizontal guides are drawn lightly and labeled.
- [ ] Head outline uses the top and chin marks consistently.
- [ ] Eyes, nose, and mouth are placed by comparing to the mirror, not only by the guides.
- [ ] At least one pencil-measure comparison is recorded or described.
- [ ] Guides are erased or lightened in the final drawing.
- [ ] Valid alternatives are accepted when the drawing matches the student's mirror observation.

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