Half-Face Mirror Symmetry Drawing: Complete the Missing Side

Original tasks 1, 2 / complete keys

Task 1

A half-face is drawn on the left. The drawn eyebrow peak is 14 mm left of the axis and 12 mm above the eye midline. The drawn ear top is 22 mm left of the axis and 40 mm above the chin line. State the mirrored positions on the right side.

Answer: Eyebrow peak: 14 mm right of the axis, 12 mm above the eye midline. Ear top: 22 mm right of the axis, 40 mm above the chin line.

Reason: Mirroring keeps the same vertical distance from the reference line and uses an equal horizontal distance on the opposite side of the axis.

Check: Measure each mirrored point from the axis and from the same reference line; compare with the drawn side.

Task 2

A drawn mouth corner is 10 mm left of the axis and 5 mm below the eye midline. The mouth center is on the axis. Where is the missing mouth corner, and what is the horizontal distance between the two corners?

Answer: The missing mouth corner is 10 mm right of the axis and 5 mm below the eye midline. The horizontal distance between the corners is 20 mm.

Reason: The missing corner mirrors the drawn corner's distance and height. The total width is the sum of the two equal distances from the axis.

Check: Measure 10 mm right of the axis at the same height, then measure the full width across the axis; it should be 20 mm.

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Original tasks 3, 4 / complete keys

Task 3

A drawn jaw point is 16 mm left of the axis and 25 mm below the eye midline. A second drawn jaw point is 12 mm left of the axis and 35 mm below the eye midline. Plot the mirrored points and describe how you would check them with a fold.

Answer: Mirrored points: 16 mm right at 25 mm below the eye midline, and 12 mm right at 35 mm below the eye midline. Fold along the axis; the drawn points and mirrored points should meet.

Reason: Each point keeps its vertical distance and mirrors its horizontal distance. Folding tests both distance and height at once.

Check: Fold the paper along the axis and press lightly; the plotted points should align with the drawn points within the chosen tolerance.

Task 4

A drawn inner eye corner is 9 mm left of the axis and 27 mm above the eye midline. Your first attempt places the mirrored corner 11 mm right of the axis and 27 mm above the eye midline. Is this acceptable under the 2 mm example tolerance? If not, what should it be?

Answer: Yes. The horizontal distance is off by exactly 2 mm, which is within the example tolerance of 2 mm, so it is acceptable. For a tighter result, move it to 9 mm right of the axis at the same height.

Reason: The mirrored horizontal distance should equal the drawn distance. An 11 mm placement is 2 mm farther than the correct 9 mm, which is exactly at the example tolerance limit and therefore acceptable under the stated convention; moving it to 9 mm gives a tighter match.

Check: Measure from the axis to the drawn corner and to the mirrored corner; the two distances should match within your chosen tolerance.

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Source rubric / reflection

- [ ] Mirror axis is drawn and used as the measurement reference.
- [ ] At least four anchor points are measured and recorded.
- [ ] Mirrored points use equal horizontal distances from the axis.
- [ ] Vertical positions match the drawn side within the chosen tolerance.
- [ ] Lines are light until points are checked.
- [ ] A fold or mirror check is performed and adjustments are noted.
- [ ] Valid alternatives in line style and small shape differences are accepted.

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