Face Scale Drawing: Overlapping Rows on a Face Pattern

Original tasks 1, 2, 3, 4 / complete keys

Task 1

A face outline is 10 cm wide at the cheeks and 15 cm tall from forehead to chin. You choose a scale width of 2.5 cm and a row interval of 1.5 cm. How many rows fit, and about how many scales fit across the widest row?

Answer: 10 rows and 4 scales across the widest row.

Reason: Rows: 15 divided by 1.5 equals 10. Scales across: 10 divided by 2.5 equals 4. These values are hypothetical examples.

Check: Multiply rows by interval to recover 15 cm, and scales by width to recover 10 cm.

Task 2

You draw Row 1 with scale centers 3 cm apart. Row 2 must be offset by half a gap. What is the sideways shift for Row 2, and where does the first Row 2 scale center sit relative to the first Row 1 center?

Answer: The shift is 1.5 cm. The first Row 2 center sits 1.5 cm to the side of the first Row 1 center.

Reason: Half of 3 cm is 1.5 cm. Offsetting by half a gap places new scales between the scales above.

Check: Add 1.5 cm twice to return to 3 cm, confirming the half-gap shift.

Task 3

A scale is 2 cm tall. You want the next row to overlap the top third of the scale above. How deep is the overlap in centimeters, and what fraction of the scale remains visible?

Answer: The overlap is about 0.67 cm, and about two thirds of the scale remains visible.

Reason: One third of 2 cm is about 0.67 cm. The remaining visible part is two thirds, or about 1.33 cm.

Check: Add 0.67 cm and 1.33 cm to recover 2 cm.

Task 4

A face outline is 14 cm tall from forehead to chin. You use a row interval of 2 cm. After drawing 5 rows, how much vertical space remains to the chin?

Answer: 4 cm remains.

Reason: Five rows at 2 cm intervals cover 10 cm. Subtracting 10 cm from 14 cm leaves 4 cm.

Check: Multiply 5 by 2 to get 10, then subtract from 14 to confirm 4 cm.

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Source rubric / reflection

- [ ] Rows follow the horizontal guide lines with consistent spacing.
- [ ] Each row is offset by about half a gap from the row above.
- [ ] Overlap is visible and similar in depth across rows.
- [ ] Scales are trimmed at the face outline without crossing it.
- [ ] Shading is light and consistent, showing the lower edge of each scale.
- [ ] Alternative scale shapes are accepted if row structure and overlap remain clear.

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