Aztec Dragon Drawing: Feather and Geometric Ornament Steps

Original tasks 1, 2, 3 / complete keys

Task 1

On a 15 cm spine, place two geometric bands: one behind the head and one near the tail. Using a hypothetical step height of 0.5 cm, describe how many step motifs fit in each band if the body width at each band is 3 cm and motifs are 1 cm wide with 0.5 cm spacing.

Answer: Each band fits two motifs: 1 cm motif plus 0.5 cm spacing plus 1 cm motif equals 2.5 cm, leaving 0.5 cm margin within the 3 cm width.

Reason: Two motifs require 2.5 cm of the 3 cm band width, so two fit without crowding. A third would exceed the width.

Check: Add motif widths and spacings: 1 + 0.5 + 1 = 2.5 cm, which is less than 3 cm; adding another 1.5 cm would exceed 3 cm.

Task 2

A feather zone is 6 cm long along the neck. If each feather is 1.5 cm wide and rows are offset by half a feather width, describe how many feathers fit in a single row and how much offset occurs between two adjacent rows.

Answer: Four feathers fit in a single row (6 divided by 1.5 equals 4). Adjacent rows are offset by 0.75 cm, which is half a feather width.

Reason: Feather width divides the zone length evenly into four feathers. Half of 1.5 cm is 0.75 cm, so that is the row offset.

Check: Multiply 4 feathers by 1.5 cm to get 6 cm, matching the zone length; divide 1.5 cm by 2 to confirm 0.75 cm offset.

Task 3

A student measures an x-height of 0.4 cm and sets feather length at 1.2 cm and step height at 0.8 cm. Check whether these values are consistent multiples of the x-height and suggest one adjustment if not.

Answer: Feather length is three x-heights (1.2 divided by 0.4 equals 3), which is consistent. Step height is two x-heights (0.8 divided by 0.4 equals 2), which is also consistent. No adjustment is needed.

Reason: Both values divide evenly by the measured x-height, so they follow the convention of using x-height multiples.

Check: Divide each value by 0.4 cm: 1.2/0.4 = 3 and 0.8/0.4 = 2, both whole numbers.

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Original tasks 4 / complete keys

Task 4

On a 24 cm spine, a student plans four bands at 6 cm intervals, placing them at 6, 12, 18, and 24 cm. The tail zone is the last 3 cm of the spine (from 21 to 24 cm). Check whether the spacing is even and whether the fourth band falls within the tail taper.

Answer: Spacing is even at 6 cm intervals, but the fourth band at 24 cm lies within the tail taper (21–24 cm). Move the fourth band to before 21 cm, or use only three bands, so no band sits on the taper.

Reason: Even spacing means equal gaps between band positions. The gaps are 6 cm each (6 to 12, 12 to 18, 18 to 24), so spacing is even. The tail zone starts at 21 cm, and the fourth band at 24 cm is inside that zone, so it overlaps the taper.

Check: Subtract consecutive positions: 12-6=6, 18-12=6, 24-18=6, confirming even spacing. Compare the fourth position (24 cm) to the tail zone start (21 cm): 24 is greater than 21, so the band is within the tail taper.

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Source rubric / reflection

- [ ] Dragon form is serpentine with an angular head, jaw wedge, brow ridge, and set-back eye.
- [ ] Feather ornament is arranged in overlapping rows with parallel quill lines and follows the body curve.
- [ ] Geometric bands are evenly spaced, contain step motifs, and follow the body taper.
- [ ] Feather and geometric ornament systems remain visually distinct through line weight and placement.
- [ ] X-height convention is explicitly measured and used consistently; alternative letter styles are acceptable if rhythm is consistent.
- [ ] All numerical values are labeled as hypothetical examples and actual equipment is measured before finalizing.

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