Eagle Head Drawing: Beak, Eye, and Contour Construction

Original tasks 1, 2, 3 / complete keys

Task 1

Profile view: rectangle 12 cm tall, 6 cm wide. Eye on midline at 6 cm. Beak base at 5 cm from baseline. Beak tip 4 cm forward of base. Calculate beak length as a percentage of head height and state whether eye placement is correct.

Answer: Beak length is 4 cm. 4/12 = 33.3%, about one third. Eye at 6 cm is on the midline, so placement is correct.

Reason: Divide beak length by head height and multiply by 100. Compare eye position to the midline value.

Check: Re-measure rectangle height and beak length with a ruler; confirm eye mark is at half the height.

Task 2

Front view: rectangle 8 cm wide, 10 cm tall. Vertical midline at 4 cm. Left eye center at 3 cm from left edge; right eye center at 5 cm from left edge. Are the eyes symmetric? If not, what is the offset?

Answer: Left eye is 1 cm left of midline; right eye is 1 cm right of midline. They are symmetric. Offset is zero.

Reason: Measure each eye distance from the vertical midline. Equal distances on opposite sides mean symmetry.

Check: Measure from midline to each eye center; both should be 1 cm.

Task 3

Profile view: head height 9 cm. Eye at 4.5 cm. Beak base at 3 cm. Beak tip 3 cm forward. A student draws the beak tip 5 cm forward. What is the new beak length percentage, and how far from the suggested one-third proportion is it?

Answer: New beak length is 5 cm. 5/9 = 55.6%. The suggested one-third length for a 9 cm head is 3 cm (33.3%), so the drawn beak is 2 cm longer than that suggested length. In percentage terms it is 22.2 percentage points above the suggested proportion, which is outside the stated tolerance of about 5 percentage points (roughly 28% to 38%).

Reason: Calculate percentage as length divided by height times 100. Subtract the suggested percentage (33.3%) from the actual percentage to get the percentage-point difference. Also subtract the suggested length (3 cm) from the drawn length (5 cm) to get the centimeter difference. Compare the percentage-point difference to the stated tolerance of about 5 percentage points.

Check: Measure beak length and head height; recompute percentage; compare to 33.3%.

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Original tasks 4 / complete keys

Task 4

Front view: rectangle 10 cm wide. Each eye should be one eighth of rectangle width. Calculate eye diameter. If a student draws each eye 1.5 cm wide, how much too large is each eye?

Answer: Suggested eye diameter is 10/8 = 1.25 cm. A 1.5 cm eye is 0.25 cm too large.

Reason: Divide rectangle width by 8. Subtract suggested diameter from drawn diameter.

Check: Measure drawn eye width and rectangle width; recompute one eighth; compare.

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Source rubric / reflection

- [ ] Head rectangle and midlines are drawn and labeled.
- [ ] Eye center lies on the horizontal midline in both views.
- [ ] Beak base-to-tip distance is measured and recorded.
- [ ] Beak shape uses a base line and two wedges before smoothing.
- [ ] Pupil direction points toward the beak.
- [ ] Head contour is checked at crown, back, and throat points.
- [ ] Front-view symmetry is checked at three heights.
- [ ] Construction lines are light and can be erased cleanly.
- [ ] Valid alternative proportions are accepted if measurements are consistent and documented.

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