Draw a Parakeet: Body Oval, Wing Shape, and Tail Length

Original tasks 1, 2, 3 / complete keys

Task 1

A body oval has a long axis of 9 cm and a short axis of 5 cm. The learner chooses a tail ratio of 1.4. Calculate the tail length and state one check that confirms the tail is proportional.

Answer: Tail length is 1.4 times 9 cm, which equals 12.6 cm. Check: divide 12.6 cm by 9 cm to get 1.4, matching the chosen ratio.

Reason: The tail ratio multiplies the body long axis. Multiplying 9 by 1.4 gives 12.6. Dividing the drawn tail length by the body long axis returns the ratio, so the check is arithmetic and repeatable.

Check: Use a ruler to measure the drawn tail and body long axis, then divide tail length by body long axis and compare with 1.4.

Task 2

A wing has maximum width 2.4 cm and the body short axis is 6 cm. Does the wing width pass the check that maximum width is about half the body short axis? Show the arithmetic.

Answer: Half of 6 cm is 3 cm. The wing width is 2.4 cm, which is less than 3 cm but within a reasonable range if the learner states a target near 0.4 to 0.5 of the short axis. The arithmetic is 2.4 divided by 6 equals 0.4.

Reason: The check compares wing maximum width to half the body short axis. Dividing 2.4 by 6 gives 0.4, which is close to but below 0.5. A learner may accept this if they state the target ratio and the drawing remains coherent.

Check: Measure wing maximum width and body short axis, divide, and compare with the stated target ratio.

Task 3

A learner draws a body oval with long axis 8 cm and a wing centerline of 9 cm starting at the shoulder. Explain why the wing tip may pass the body tail end and give one fix using the stated values.

Answer: The wing centerline of 9 cm is longer than the body long axis of 8 cm, so the wing tip can reach or pass the body tail end. Fix: shorten the wing centerline to 6 cm, which is less than 8 cm, and recheck that a visible gap remains.

Reason: The wing starts near the shoulder, which is already partway along the body. A wing longer than the body long axis is likely to overshoot the tail end. Shortening the wing to a value below the body long axis restores the gap check.

Check: Measure from the wing tip to the body tail end and confirm a visible gap after shortening the wing.

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Original tasks 4 / complete keys

Task 4

A drawing uses a body long axis of 7 cm, a tail length of 8.4 cm, and a tail centerline angled 8 degrees from the body axis. Check the tail ratio and the angle limit, showing both calculations or comparisons.

Answer: Tail ratio is 8.4 divided by 7, which equals 1.2. The angle of 8 degrees is within the 10-degree limit. Both checks pass.

Reason: The tail ratio is found by division. The angle limit is a direct comparison. Since 1.2 is a valid stated ratio and 8 is less than 10, the tail layout is consistent with the convention.

Check: Measure tail length and body long axis, divide to confirm 1.2, and use a protractor or angle guide to confirm the tail centerline is within 10 degrees of the body axis.

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Source rubric / reflection

- [ ] Body oval has a stated long axis, short axis, and tilt angle, and is symmetrical about the long axis.
- [ ] Wing is a tapered closed shape attached along the upper back, with a stated length and maximum width.
- [ ] Wing tip stops before the body oval's tail end, leaving a visible gap.
- [ ] Tail length is stated as a ratio of the body long axis and matches the measured drawing.
- [ ] Tail centerline stays within about 10 degrees of the body long axis direction.
- [ ] Chosen numerical values are labeled as hypothetical examples and recorded beside the drawing.
- [ ] Valid alternatives are accepted when the stated checks pass and values are recorded.

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