Draw a Flying Dragon: Spread Wings and Airborne Pose

Original tasks 1, 2, 3 / complete keys

Task 1

A dragon has a body length of 8 cm from chest to tail base. Using a hypothetical wing span ratio of 1.5 times body length, calculate the total wing span and the length of each wing from shoulder to tip.

Answer: Total wing span = 12 cm; each wing = 6 cm.

Reason: Multiply 8 cm by 1.5 to get 12 cm total span, then divide by 2 for each wing: 12 ÷ 2 = 6 cm.

Check: Add the two wing lengths: 6 cm + 6 cm = 12 cm, which matches the total span.

Task 2

A dragon's body axis is tilted 30 degrees from horizontal. If the chest is 4 cm above the tail base along the vertical direction, what is the approximate horizontal distance from chest to tail base? Use the tangent relationship tan(30°) ≈ 0.58, and label the result as a hypothetical example.

Answer: Approximately 6.9 cm horizontally.

Reason: tan(30°) = vertical ÷ horizontal, so horizontal = 4 cm ÷ 0.58 ≈ 6.9 cm.

Check: Multiply the horizontal distance by tan(30°): 6.9 cm × 0.58 ≈ 4.0 cm, matching the given vertical distance.

Task 3

You draw a left wing with a shoulder-to-wrist segment of 3 cm and a wrist-to-tip segment of 4 cm. For a symmetrical spread-wing pose, what should the right wing's two segment lengths be, and what is each wing's total length?

Answer: Right wing: 3 cm shoulder-to-wrist and 4 cm wrist-to-tip; each wing totals 7 cm.

Reason: Symmetry requires matching segment lengths, so the right wing copies the left. Total per wing = 3 cm + 4 cm = 7 cm.

Check: Compare left and right totals: 7 cm = 7 cm, and each segment pair matches.

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Original tasks 4 / complete keys

Task 4

A dragon drawing uses an x-height convention where the baseline-to-midline distance is 2 cm. The wing membrane's lower edge dips 1.5 cm below the wrist line at its lowest point. If the wrist line is 6 cm above the baseline, what is the height of the membrane's lowest point above the baseline?

Answer: 4.5 cm above the baseline.

Reason: Subtract the dip from the wrist line height: 6 cm − 1.5 cm = 4.5 cm.

Check: Add the dip back to the result: 4.5 cm + 1.5 cm = 6 cm, matching the wrist line height.

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Source rubric / reflection

- [ ] Airborne pose is clear: body axis tilts upward and limbs do not hang as if grounded.
- [ ] Both wings are spread and include a visible wrist joint and membrane outline.
- [ ] Wing spans are consistent with the chosen x-height convention, allowing valid alternative proportions.
- [ ] Body, neck, and tail form a balanced silhouette with no scale texture added.
- [ ] Construction lines are light and final outline is readable.

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