Realistic Airplane Drawing: Fuselage and Wing Construction

Original tasks 1, 2, 3 / complete keys

Task 1

Draw a side-view airplane on a 15 cm centerline. Place the wing root at 10 cm from the nose. Fuselage width 1.8 cm at cockpit and 0.9 cm at tail. Describe your shading plan.

Answer: Centerline 15 cm; wing root at 10 cm; widths 1.8 cm and 0.9 cm. Shade highlight along top, mid-tone on side, dark beneath wing root.

Reason: Two-thirds of 15 cm is 10 cm, so the wing root sits at the rear third boundary. Tapered widths create a realistic fuselage envelope.

Check: Measure wing root distance and widths; confirm highlight and shadow placement match upper-left light.

Task 2

In three-quarter view, the near wing appears longer than the far wing. If the near wing measures 6 cm from root to tip, what should the far wing measure if perspective shortens it by one-third? State the shading difference.

Answer: Far wing 4 cm. Near wing top lighter; far wing slightly darker due to angle; both undersides darker than tops.

Reason: One-third of 6 cm is 2 cm, so 6 minus 2 equals 4 cm. Perspective shortens the far wing.

Check: Verify 6 minus 2 equals 4; check that far wing is shorter and shading follows light direction.

Task 3

A fuselage is 18 cm long. You want wingspan equal to fuselage length and tail span one-third of wingspan. Give tail span and place wing root at two-thirds of fuselage length.

Answer: Wingspan 18 cm; tail span 6 cm; wing root at 12 cm from nose.

Reason: One-third of 18 cm is 6 cm. Two-thirds of 18 cm is 12 cm.

Check: Confirm 18 divided by 3 equals 6 and 18 times two-thirds equals 12; measure on drawing.

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Original tasks 4 / complete keys

Task 4

Your shading band is 1 cm wide on a 2 cm fuselage. Where should the darkest part sit, and how wide should the highlight be? Use the upper-left light convention.

Answer: Darkest beneath wing root and lower right side; highlight narrow, about 0.3 cm along top curve.

Reason: A single upper-left light creates a narrow top highlight and broader shadow on the lower right; wing root casts shadow beneath.

Check: Measure highlight width and check darkest area is opposite the light source; adjust if even.

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Source rubric / reflection

- [ ] Fuselage built around a centerline with visible taper toward the tail.
- [ ] Wing planform tapered and mirrored using measured distances.
- [ ] Tail placed behind wing with horizontal and vertical surfaces.
- [ ] Shading consistent with a single upper-left light source.
- [ ] Proportions checked: wingspan and fuselage length compared; wing root position measured.
- [ ] Valid alternative styles accepted if construction and shading logic are clear.

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