Crappie Drawing: Body, Fins, and Scale Construction

Original tasks 1, 2, 3 / complete keys

Task 1

A crappie drawing has total length 24 units. Using the lesson proportions, calculate body depth and tail base width.

Answer: Body depth is about 8 units; tail base width is about 1 unit.

Reason: Body depth is one-third of 24, which is 8. Tail base width is one-eighth of body depth, and one-eighth of 8 is 1.

Check: Multiply total length by one-third and body depth by one-eighth; confirm the arithmetic.

Task 2

Total length is 30 units. Find the start and end positions of the dorsal fin base from the snout using one-third and two-thirds of body length.

Answer: Start at 10 units and end at 20 units from the snout.

Reason: One-third of 30 is 10, and two-thirds of 30 is 20. The dorsal base runs between those marks.

Check: Divide 30 by 3 and multiply by 1 and 2; confirm the two positions differ by one-third of length.

Task 3

A scale row has 12 scales. The next row is offset by half a scale. Describe where the first scale of the next row begins relative to the first scale of the previous row.

Answer: The next row begins half a scale width to the right or left of the previous row's first scale, depending on the chosen offset direction, and continues with the same spacing.

Reason: A half-scale offset means each scale in the new row sits between two scales of the row above. The direction can be chosen but must stay consistent.

Check: Measure one scale width, divide by two, and confirm each new scale center lies halfway between adjacent scales above.

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Original tasks 4 / complete keys

Task 4

A drawing has body depth 9 units. Using the example row spacing of one-tenth of body depth, calculate the spacing between scale rows.

Answer: Row spacing is about 0.9 units.

Reason: One-tenth of 9 is 0.9. This is a hypothetical example spacing, not a fixed rule.

Check: Divide body depth by 10 and compare with the measured gap between adjacent scale rows.

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Source rubric / reflection

- [ ] Body depth is close to the chosen proportion and the belly is fuller than the back.
- [ ] Forehead slopes to the mouth and the tail base is narrow.
- [ ] Dorsal fin base is continuous with a shorter spiny front and longer soft rear.
- [ ] Anal fin sits below the soft dorsal within the stated fraction range.
- [ ] Scale rows are staggered, offset by half a scale, and overlap toward the tail.
- [ ] Fin rays and scale rows are evenly spaced and stop at fin bases.
- [ ] Valid alternative scale shapes and letter styles are accepted if row spacing and overlap direction are consistent.

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