Realistic Sea Turtle Drawing: Shell Scutes and Flipper Construction

Original tasks 1, 2, 3 / complete keys

Task 1

A drawing has shell width 12 cm and shell height 9 cm. Calculate the width-to-height ratio and state whether it is flatter or taller than the lesson's hypothetical target of 1.4.

Answer: 12 divided by 9 equals about 1.33. This is slightly taller than the target 1.4 (a lower ratio means the shell is relatively taller), but close.

Reason: Divide width by height to get the ratio, then compare to 1.4. A ratio below 1.4 means the shell is relatively taller than the target; a ratio above 1.4 means it is flatter.

Check: Recompute 12 divided by 9 with a calculator or long division, confirm the result is about 1.33, and note that 1.33 is less than 1.4, so the shell is taller than the target.

Task 2

A shell is 14 cm wide. Using the lesson's hypothetical proportions, find the target head length, front flipper length, and rear flipper length.

Answer: Head length about 4.7 cm, front flipper length about 7 cm, rear flipper length about 3.5 cm.

Reason: Head is one-third of shell width: 14 divided by 3 is about 4.7. Front flipper is half: 14 divided by 2 is 7. Rear flipper is one-quarter: 14 divided by 4 is 3.5.

Check: Multiply each result back: 4.7 times 3 is about 14.1, 7 times 2 is 14, and 3.5 times 4 is 14.

Task 3

A student draws five central scutes, three costal scutes on the left, and four costal scutes on the right. Using the lesson's convention of four costal scutes per side, how many costal scutes are missing or extra?

Answer: One costal scute is missing on the left; the right side matches the convention.

Reason: The convention calls for four per side. Left has three, so one is missing. Right has four, so no change.

Check: Count each side separately and compare to four; total costal scutes should be eight under the convention.

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Original tasks 4 / complete keys

Task 4

A drawing has front flipper length 6 cm and rear flipper length 3 cm on a shell 12 cm wide. Check both against the lesson's hypothetical targets and state whether each is correct, short, or long.

Answer: Front flipper target is 6 cm, so 6 cm is correct. Rear flipper target is 3 cm, so 3 cm is correct.

Reason: Front target is half of 12, which is 6. Rear target is one-quarter of 12, which is 3. Both match exactly.

Check: Recompute half and one-quarter of 12, then compare to the given lengths.

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Source rubric / reflection

- [ ] Shell dome is flatter than a tortoise dome and width-to-height ratio is recorded.
- [ ] Scutes are arranged in central, costal, and marginal rows with consistent gaps.
- [ ] Front flippers are longer than rear flippers and both are tapered smoothly.
- [ ] Head length is compared to shell width using simple arithmetic.
- [ ] Final outlines are clear and the scute-row convention is applied consistently across the whole shell.

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