Drawing a Shrimp: Segmented Body and Curved Tail

Original tasks 1, 2 / complete keys

Task 1

Draw a shrimp with a 12 cm total body length: cephalothorax 4 cm and abdomen-plus-fan 8 cm. Use a 6 cm segment run and reserve 2 cm for the fan attachment. Divide the segment run into six equal panels with five internal boundary lines. Add a central telson and paired uropods. All measurements are hypothetical. Treat all values as hypothetical drawing dimensions.

Answer: The lengths are $4+8=12$ cm, and $8-2=6$ cm remains for the segment run. Six panels across 6 cm have a 1 cm pitch. Mark five internal boundaries 1, 2, 3, 4, and 5 cm from the start; the endpoints at 0 and 6 cm bound the six panels. Use a separate hypothetical 2.4 cm fan-span example and a hypothetical 0.6 cm eye if desired. Draw one central telson and two uropods.

Reason: Panel count and line count differ: six equal panels require five internal separators, with the start and end contours serving as the outer boundaries. The pitch is $6\div6=1$ cm.

Check: Check $4+8=12$ and $8-2=6$ cm. Divide 6 cm by six panels to get 1 cm each; confirm the five interior marks are at 1, 2, 3, 4, and 5 cm. Measure the fan span separately.

Task 2

Draw a shrimp facing left with a pronounced downward abdomen curve. Use a total length of 18 cm, a 6 cm cephalothorax, and a 12 cm abdomen-plus-fan section. Reserve 3.6 cm for the fan attachment; divide the remaining 8.4 cm curve into six equal panels using five internal boundaries. For an 8 cm curve chord, use a 2 cm maximum deviation. Add a telson and two uropods. Treat all values as hypothetical drawing dimensions.

Answer: The body sections total $6+12=18$ cm. Subtracting 3.6 cm leaves an 8.4 cm segment run. Six panels have pitch $8.4\div6=1.4$ cm; place five internal boundaries at 1.4, 2.8, 4.2, 5.6, and 7.0 cm from the start. The start and end outlines bound the panels. For the curve check, $2\div8=0.25$, or one quarter of the chord. Draw one pointed central telson and two uropods; the antennae sweep left, away from the fan.

Reason: The 8.4 cm curve length is divided among six panels, giving 1.4 cm per panel; five internal lines create those six panels. The deviation ratio is $2\div8=0.25$.

Check: Check $6+12=18$ and $12-3.6=8.4$ cm. Confirm six 1.4 cm panel widths and five boundaries at the listed positions. Confirm $2\div8=0.25$ and the fan has one telson plus two uropods.

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Original tasks 3, 4 / complete keys

Task 3

Draw a shrimp with a shallow abdomen curve and compact tail fan. Use a 10 cm total length, with a 3.5 cm cephalothorax and 6.5 cm abdomen-plus-fan section. Use a 4 cm segment run and reserve 2.5 cm for fan attachment. Divide the run into six equal panels with five internal boundaries. Choose a 2 cm fan span, 0.5 cm eye, and 8 cm antennae as hypothetical values. Treat all values as hypothetical drawing dimensions.

Answer: The body sections total $3.5+6.5=10$ cm. The segment run is 4 cm, so six panels have pitch $4\div6\approx0.67$ cm; the five internal boundaries are at approximately 0.67, 1.33, 2.00, 2.67, and 3.33 cm from the start. The fan attachment is 2.5 cm, and the 2 cm fan span is a separate measurement. Draw a 0.5 cm eye and 8 cm antennae as specified, plus one telson and two uropods.

Reason: The panel pitch is the 4 cm run divided by six, not by the five interior boundary lines. The 2 cm fan width is not part of the body-length sum.

Check: Check $3.5+6.5=10$ cm and $4\div6\approx0.67$ cm per panel. Confirm five internal boundaries at the listed positions, measure the fan span separately, and count one telson plus two uropods.

Task 4

Draw a shrimp with a strong comma-shaped abdomen curve and wide tail fan. Use a 20 cm total length, 7 cm cephalothorax, and 13 cm abdomen-plus-fan section. Set the segment run to 10 cm, leaving 3 cm for the fan attachment. Divide it into six equal panels with five internal boundaries, and use a 4 cm fan span. Add one telson and two uropods. Treat all values as hypothetical drawing dimensions.

Answer: The body sections add to 20 cm, and $13-10=3$ cm remains for the fan attachment. Six panels across 10 cm have pitch $10\div6\approx1.67$ cm. Place five internal boundaries at about 1.67, 3.33, 5.00, 6.67, and 8.33 cm from the start; the endpoints complete the panels. Measure the 4 cm fan span separately. Draw one pointed telson and two uropods. A 1 cm eye and 15 cm antennae are optional hypothetical choices.

Reason: Six panels divide the 10 cm segment run into six equal widths; five interior lines separate them. The 4 cm fan span is measured independently from the 3 cm fan-attachment portion.

Check: Check $7+13=20$ and $13-10=3$ cm. Confirm six panel widths of about 1.67 cm, five internal marks at the listed positions, and a separate 4 cm fan span. Count one telson and two uropods.

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Source rubric / reflection

- [ ] The shrimp is recognizable in side view with a distinct cephalothorax, curved abdomen, and tail fan.
- [ ] The abdomen curve is smooth and continuous, not straight or sharply angled.
- [ ] The abdomen has six segment panels separated by five internal boundaries.
- [ ] The tail fan is compact and has one central telson with two distinct uropods.
- [ ] The antennae are thin, sweep away from the body, and do not obscure the segmentation.
- [ ] Proportions are checkable with simple arithmetic and consistent units; numerical values are labeled as hypothetical examples.
- [ ] Labels distinguish the six abdominal panels from the five internal boundary lines, central telson, and paired uropods.
- [ ] The drawing remains a shrimp side-view construction rather than another crustacean subject or a cooking scene.

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