Drawing a Crayfish: Segmented Body, Claws, and Antennae

Original tasks 1, 2, 3 / complete keys

Task 1

A crayfish drawing uses a body length of 12 cm on a 24 cm wide sheet. The carapace is one quarter of the body length. Calculate the carapace length and the space left on each side if the body is centered.

Answer: Carapace length = 12 cm divided by 4 = 3 cm. Space left on each side = (24 cm minus 12 cm) divided by 2 = 6 cm.

Reason: Divide the body length by four to get the carapace length. Subtract the body length from the sheet width, then divide by two for equal side margins.

Check: Multiply the carapace length by four to recover 12 cm. Add 6 cm, 12 cm, and 6 cm to recover 24 cm.

Task 2

You draw six abdomen bands. The first band is 3 cm wide and each later band is 0.5 cm narrower than the one before it. What is the width of the sixth band?

Answer: The sixth band is 0.5 cm wide.

Reason: The widths decrease by 0.5 cm five times from the first to the sixth band: 3, 2.5, 2, 1.5, 1, 0.5 cm.

Check: Count the five decreases and subtract 5 times 0.5 cm from 3 cm: 3 minus 2.5 equals 0.5 cm.

Task 3

A claw is drawn as three parts: arm 2 cm, palm 3 cm, and fingers 4 cm. If you draw two claws, what is the total length of claw material along the arm-palm-finger line?

Answer: Each claw is 2 + 3 + 4 = 9 cm. Two claws total 18 cm.

Reason: Add the three part lengths for one claw, then multiply by two for the pair.

Check: Divide 18 cm by two to recover 9 cm per claw, then subtract 2 cm and 3 cm to recover the 4 cm finger length.

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Original tasks 4 / complete keys

Task 4

On a 15 cm by 21 cm sheet, you plan a crayfish with a 10 cm body and a 3 cm tail fan. The claws extend 4 cm forward of the body. What total horizontal length must the drawing fit, and how much margin remains if the drawing is centered?

Answer: Total horizontal length = 4 cm + 10 cm + 3 cm = 17 cm. Margin remaining = 21 cm minus 17 cm = 4 cm, or 2 cm on each side when centered.

Reason: Add the forward claw extension, body length, and tail fan length. Subtract from the sheet width, then divide by two for centered margins.

Check: Add 2 cm, 17 cm, and 2 cm to recover 21 cm. Subtract 4 cm and 3 cm from 17 cm to recover the 10 cm body.

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Source rubric / reflection

- [ ] Carapace is an oval placed along a clear body axis.
- [ ] Abdomen shows at least five distinct overlapping segment bands.
- [ ] Tail fan has three rounded lobes.
- [ ] Two claws are present, each with arm, palm, and two fingers.
- [ ] Antennae attach near the front of the head and do not confuse the claw outlines.
- [ ] Final outlines are darker than construction lines.
- [ ] Optional labels are legible and use the baseline-to-midline x-height convention; alternative letter styles are acceptable.

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