Draw a Viking Longship: Curved Hull, Dragon Prow, and Even Oar Row

Original tasks 1, 2, 3 / complete keys

Task 1

A drawing area is 24 cm wide. Place the bow at 3 cm and the stern at 21 cm. You want 9 oars evenly spaced along the hull side. What is the spacing between oar marks?

Answer: 2 cm

Reason: Hull length is 21 minus 3 equals 18 cm. Divide 18 cm by 9 oars to get 2 cm per interval.

Check: Multiply 9 by 2 cm to get 18 cm, then add the 3 cm left margin to confirm the stern at 21 cm.

Task 2

On a 16 cm hull side, you place oar marks at 0, 2, 4, 6, 8, 10, 12, and 14 cm. How many oars are marked, and what is the spacing?

Answer: 8 oars, spaced 2 cm apart.

Reason: Count the marks: eight positions. Each consecutive mark differs by 2 cm.

Check: Subtract consecutive marks: 2 minus 0 equals 2, 4 minus 2 equals 2, and so on through 14 minus 12 equals 2.

Task 3

A shield circle has a 1.5 cm diameter. You place 6 shields along a gunwale with equal gaps of 1 cm between shield edges. What total length do the shields and gaps occupy?

Answer: 14 cm

Reason: Six shields occupy 6 × 1.5 cm = 9 cm. Five gaps between six shields occupy 5 × 1 cm = 5 cm. Total is 9 + 5 = 14 cm.

Check: Add shield widths and gap widths separately: 9 cm plus 5 cm equals 14 cm. Confirm there are five gaps for six shields.

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Original tasks 4 / complete keys

Task 4

Your hull's lowest point is 2 cm above the baseline. The gunwale is 6 cm above the baseline. What is the vertical gap between the gunwale and the hull bottom at the middle?

Answer: 4 cm

Reason: Subtract the hull bottom height from the gunwale height: 6 cm minus 2 cm equals 4 cm.

Check: Add the gap to the hull bottom height: 4 cm plus 2 cm equals 6 cm, matching the gunwale height.

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Source rubric / reflection

- [ ] Hull curve is smooth, shallow, and sits between the midline and baseline.
- [ ] Gunwale and hull bottom are clearly separated and connected at bow and stern.
- [ ] Dragon prow has a visible neck, head, snout, and crest or horn.
- [ ] Oars are evenly spaced within a small tolerance and share a consistent angle.
- [ ] Shields, if included, are consistent in size and placed along the gunwale.
- [ ] Line weight distinguishes main hull and prow from secondary details.
- [ ] Valid alternatives are accepted: different oar counts, shield styles, or slight curve variations that preserve structure.

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