Draw Alaska: Grid Tracing, Coastline, and Landmark Placement

Original tasks 1, 2, 3 / complete keys

Task 1

On a 10 by 10 grid with 2 cm squares, a coastline enters cell D6 at the top edge one-third from the left and leaves at the right edge halfway down. Describe the two points and the check you would perform.

Answer: Entry: top edge of D6, one-third of 2 cm (about 0.67 cm) from the top-left corner. Exit: right edge of D6, halfway down (1 cm from the top-right corner). Check by measuring both distances with a ruler; each should match the stated fraction within about 2 mm.

Reason: The fractions convert to simple lengths because the cell size is known. Measuring from the nearest corners gives a direct check without relying on an image.

Check: Measure entry distance from the top-left corner of D6 and exit distance from the top-right corner; compare with 0.67 cm and 1 cm.

Task 2

A landmark is assigned to cell F7. The dot center is 1.5 cm from the left edge of the cell and 0.5 cm from the bottom edge. The cell is 2 cm by 2 cm. Is the dot inside F7? Show the arithmetic.

Answer: Yes. The dot is 1.5 cm from the left and 0.5 cm from the bottom, both less than 2 cm, so the center lies inside F7. The remaining distances are 0.5 cm to the right edge and 1.5 cm to the top edge.

Reason: A point is inside a square cell if both distances from the edges are between 0 and the cell size. Here both are within 0 to 2 cm.

Check: Subtract each distance from 2 cm to confirm positive remainders: $2 - 1.5 = 0.5$ cm and $2 - 0.5 = 1.5$ cm.

Task 3

You count 6 coastal indentations in row 5 of the reference and 4 in your drawing. The row has 10 cells. What is the difference, and what check would you do next?

Answer: The difference is 2 indentations. Next, compare each cell in row 5 and list which indentations are missing, then check whether each missing one has two clear endpoints in the reference.

Reason: Counting per row is a simple arithmetic check. Listing missing items turns the count difference into specific corrections.

Check: Recount both rows independently and confirm the totals 6 and 4 before listing missing indentations.

Draw Alaska: Grid Tracing, Coastline, and Landmark Placement

Original tasks 4 / complete keys

Task 4

Your blank grid has 10 columns and 10 rows with 2 cm squares. You measure the full width as 20 cm and the full height as 20 cm. The reference grid measures 20 cm by 20 cm but has 12 columns and 10 rows. What is wrong, and how do you fix it?

Answer: The column counts differ (10 versus 12), so the square widths differ even though the total width matches. Fix by redrawing the blank grid with 12 columns of equal width, or by redrawing the reference with 10 columns, so both grids have identical square counts and sizes.

Reason: Matching total dimensions is not enough; the number of squares must also match for square-by-square transfer to work.

Check: Divide total width by column count on each grid: 20 ÷ 10 = 2 cm and 20 ÷ 12 ≈ 1.67 cm. The unequal results confirm the mismatch.

Draw Alaska: Grid Tracing, Coastline, and Landmark Placement

Source rubric / reflection

- [ ] Outline major features are recognizable and match the reference in at least 80 percent of grid-edge crossings.
- [ ] Coastal indentations are drawn as short arcs with recorded endpoints; no detail smaller than one-tenth of a cell is invented.
- [ ] Each landmark dot center lies inside its stated grid cell, and each marker appears exactly once in the legend.
- [ ] Legend text is readable in any consistent letter style, and leader lines do not cross other markers.
- [ ] Grid setup uses identical square counts and sizes on reference and blank sheets, verified by measurement.

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