Small Stars Drawing: Point-Spacing Construction

Original tasks 1, 2, 3, 4 / complete keys

Task 1

Draw a small star with a 1 cm radius. List the connection order you used.

Answer: Connection order: 1-3, 3-5, 5-2, 2-4, 4-1.

Reason: The skip-one order creates the five-point outline. A 1 cm radius keeps the star small.

Check: Measure the five center-to-point distances; they should be close to 1 cm. Confirm the connection order.

Task 2

A student places five points at equal spacing but connects 1-2, 2-3, 3-4, 4-5, 5-1. What shape results, and how should they fix it?

Answer: The result is a pentagon. Fix by reconnecting in the skip-one order: 1-3, 3-5, 5-2, 2-4, 4-1.

Reason: Connecting neighboring points makes a closed five-sided polygon without star arms.

Check: Look for five outer points and five inner intersections; a pentagon has no inner intersections.

Task 3

Draw two small stars: one with a 1.5 cm radius and one with a 2 cm radius. Compare their spacing.

Answer: Both should use the same skip-one connection order. The larger star has longer arms but similar angular spacing.

Reason: Changing the radius changes size, not the spacing rule.

Check: Check that both stars have five outer points and the same connection order. Measure radii to confirm the size difference.

Task 4

You draw a small star and one arm looks longer. Describe a correction that does not redraw the whole star.

Answer: Lightly erase or adjust the outer point of the long arm toward the correct radius, then reconnect the affected lines.

Reason: Small spacing errors are easier to fix at the point than by redrawing everything.

Check: Measure the adjusted point's distance from center and compare it with the other four points.

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Source rubric / reflection

- [ ] Five outer points are placed with roughly equal angular spacing.
- [ ] Distances from center to outer points are similar.
- [ ] Connections follow the skip-one order.
- [ ] The star is recognizable and fits the small-star size range.
- [ ] Valid stylistic alternatives are accepted if the spacing construction is clear.

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