Starburst Drawing: Varied Spikes and Center Burst Shading

Original tasks 1, 2 / complete keys

Task 1

Draw a starburst with six spikes on a six-line radial grid (every 60 degrees). Use a center circle radius of 1 cm. Make spike lengths alternate: 3 cm, 2 cm, 3 cm, 2 cm, 3 cm, 2 cm. Shade the center with hatching lines that are denser at the center.

Answer: A six-spike starburst with alternating long (3 cm) and short (2 cm) spikes. The center circle is shaded with hatching lines that are close together near the center point and spaced farther apart near the circle edge.

Reason: The six-line grid ensures even spacing. Alternating lengths creates variation. Hatching density gradient produces the center burst effect.

Check: Verify that each spike starts at the circle edge and ends at the correct length. Check that hatching lines are denser at the center than at the edge.

Task 2

Draw a starburst with eight spikes. Use a center circle radius of 1.5 cm. Assign spike lengths in a pattern: 4 cm, 3 cm, 2 cm, 3 cm, 4 cm, 3 cm, 2 cm, 3 cm. Shade the center using stippling with dots denser at the center.

Answer: An eight-spike starburst with lengths following the pattern. The center circle is stippled with dots that are closely packed near the center and sparser near the edge.

Reason: The pattern provides three distinct lengths. Stippling density gradient creates the burst shading. The radial grid ensures even placement.

Check: Confirm spike lengths match the pattern by measuring from center to tip. Check that dot density decreases from center to edge.

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Original tasks 3, 4 / complete keys

Task 3

Draw a starburst with ten spikes on a ten-line radial grid (every 36 degrees). Use a center circle radius of 1.2 cm. Choose each spike length from the set {2, 2.5, 3, 3.5, 4} cm, and make sure no two adjacent spikes have the same length. Shade the center with a pencil gradient, darkest at the center point and lightest at the circle edge.

Answer: A ten-spike starburst with lengths chosen from {2, 2.5, 3, 3.5, 4} cm and no two adjacent spikes equal. One valid sequence, going around the circle, is 3, 2.5, 4, 3, 2, 3.5, 2.5, 4, 3, 2 cm. The center circle shows a smooth pencil gradient from dark at the center point to light at the edge.

Reason: Choosing from a fixed set of five lengths keeps the variation deliberate and checkable, while the no-adjacent-equal rule prevents monotony. The pencil gradient provides a clear center burst, and the ten-line grid maintains even radial spacing.

Check: Going around the circle, confirm each spike length is one of 2, 2.5, 3, 3.5, or 4 cm and that no two neighbors match. Measure from the center point to each tip. Verify the shading is darkest at the center point and lightest at the circle edge.

Task 4

Draw a starburst with twelve spikes on a twelve-line radial grid (every 30 degrees). Use a center circle radius of 1 cm. Use a repeating length pattern of 3.5 cm, 2.5 cm, 3 cm, 2.5 cm (repeat three times). Shade the center with cross-hatching that is denser at the center.

Answer: A twelve-spike starburst with the repeating length pattern. The center circle is cross-hatched with denser lines near the center and lighter cross-hatching near the edge.

Reason: The pattern gives three lengths in a cycle. Cross-hatching density gradient creates depth. The twelve-line grid ensures even spacing.

Check: Verify the length pattern repeats correctly and cross-hatching is denser at the center. Measure a few spike lengths to confirm.

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Source rubric / reflection

- [ ] Radial structure: spikes radiate from the center circle along guide lines.
- [ ] Spike length variation: at least two distinct spike lengths are used in a planned pattern.
- [ ] Center burst shading: shading is darker near the center and lighter toward the circle edge.
- [ ] Neatness: guide lines are erased, spikes are cleanly drawn, and shading is controlled.
- [ ] Alternative conventions allowed: spike count, length pattern, and shading method may vary if the radial burst and center emphasis are clear.

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