Shaded Solid Drawing: Cube, Sphere, and Cylinder

Original tasks 1, 2 / complete keys

Task 1

Draw a cube with the light arrow pointing from the upper left, using a front square plus top and right side faces. Shade the top face lightest, the right side face middle, and the front face darkest. Add a cast shadow to the lower right. Describe your tone choices in one sentence.

Answer: The top face is lightest because it faces the upper-left light; the right side face is middle; the front face is darkest because it turns most away from the light. The cast shadow extends to the lower right, opposite the light.

Reason: The light arrow sets the logic: surfaces facing the light are lighter, surfaces turned away are darker, and the cast shadow falls opposite the light. Keeping three distinct face tones makes the cube read as a solid.

Check: Squint at the drawing and confirm the lightest face is nearest the arrow, the darkest face is turned most away, and the cast shadow points away from the arrow. Check that the three face tones are visibly different.

Task 2

Draw a sphere with the light arrow pointing from the upper right. Mark a small highlight near the upper right, shade a middle tone around it, darken the lower left, and add a narrow reflected light near the bottom edge. Add a cast shadow to the lower left.

Answer: The highlight sits near the upper right, the middle tone surrounds it, the lower left is dark, and a narrow lighter band appears near the bottom edge before the cast shadow. The cast shadow extends to the lower left.

Reason: A sphere has no flat faces, so tone must graduate smoothly. The highlight faces the light, the dark side faces away, and reflected light bounces from the ground onto the lower edge. The cast shadow falls opposite the light.

Check: Check that the highlight is the lightest area, the dark side is opposite the arrow, the reflected light is narrower and lighter than the middle tone but not as bright as the highlight, and the cast shadow points away from the arrow.

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Original tasks 3, 4 / complete keys

Task 3

Draw a cylinder with the light arrow pointing from the left. Keep the top ellipse light, shade the curved side with a vertical band that darkens toward the right, and darken the bottom ellipse where it meets the ground. Add a cast shadow to the right.

Answer: The top ellipse is light, the curved side has a vertical band that is lighter on the left and darker on the right, and the bottom ellipse is darkest at contact. The cast shadow extends to the right.

Reason: The curved side receives light progressively less as it turns away from the left light, so a vertical graduated band shows volume. The top ellipse faces upward and stays light, while the bottom ellipse is shadowed at contact. The cast shadow falls opposite the light.

Check: Confirm the top ellipse is lighter than the curved side, the curved side darkens from left to right, the bottom ellipse is darkest at contact, and the cast shadow points right. Check that the ellipses are wider than they are tall.

Task 4

Draw all three solids on one page with a single light arrow pointing from the upper left. Use a five-step value scale you make yourself. Shade each solid consistently and add cast shadows. Then write one sentence explaining how you checked consistency.

Answer: All three solids use the same upper-left light: cube top lightest, right side middle, front darkest; sphere highlight upper left, dark lower right, reflected light near bottom; cylinder top ellipse light, curved side darker to the right, bottom ellipse dark at contact. Cast shadows fall to the lower right. I checked consistency by squinting and comparing every highlight and shadow to the light arrow.

Reason: A single light arrow forces the same shading logic across different forms. The value scale helps compare tones between solids. Squinting simplifies the image so inconsistencies in light direction stand out.

Check: Verify that every highlight faces the upper left, every dark side is turned away from the upper left, all cast shadows point to the lower right, and the five-step value scale is visible and used consistently. Confirm the cube has sharper edges than the sphere and cylinder.

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Source rubric / reflection

- [ ] Light direction is marked with one arrow and all three solids agree with it.
- [ ] Cube shows three distinct face tones from lightest to darkest and a cast shadow opposite the light.
- [ ] Sphere shows highlight, middle tone, dark side, and a narrow reflected light near the bottom edge.
- [ ] Cylinder shows a lighter top ellipse, a graduated vertical tone band on the curved side, and a darker bottom ellipse at contact.
- [ ] Cast shadows point in the same direction and are darkest at contact.
- [ ] Edges are sharper on the cube than on the sphere and cylinder.
- [ ] Construction lines are faint or erased and do not compete with the shading.
- [ ] Valid alternative light directions and personal value scales are accepted if consistency is maintained.

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