Boulder Drawing: Faceted Planes and Cast Shadow

Original tasks 1, 2, 3 / complete keys

Task 1

A boulder outline is ten centimeters wide and seven centimeters tall with four facets. Light comes from upper left. Facet 1 faces upper left, facet 2 faces up, facet 3 faces right, facet 4 faces down. Assign L, M, or D to each facet and state the shadow direction.

Answer: Facet 1: L. Facet 2: L or M (choose one and keep it). Facet 3: M. Facet 4: D. Shadow extends lower right.

Reason: Facets facing the light source receive the lightest value; downward and right-facing facets turn away. The shadow falls opposite the upper-left light.

Check: Confirm each label matches the facet's facing direction and that the shadow points lower right, opposite the light arrow.

Task 2

A drawing shows a boulder with light from upper left, but the cast shadow extends to the upper left. The darkest facet is on the upper-left side. Identify two errors and state the corrections.

Answer: Error one: shadow direction is wrong; it should extend lower right. Error two: darkest facet is on the light side; the darkest facet should face lower right or down.

Reason: Cast shadows fall opposite the light, and the darkest planes face away from the light. Both errors contradict the recorded light direction.

Check: Trace the light arrow to the shadow and to the darkest facet; both should be on opposite sides of the boulder.

Task 3

A boulder has five facets labeled L, L, M, D, D. The artist shades all five with the same medium pressure. Describe the correction and the expected visual result.

Answer: Re-shade the two L facets with light pressure and the two D facets with firm pressure, keeping M at medium. The facets will then separate into three clear value groups.

Reason: Identical pressure removes plane information. Three pressure levels restore the light-to-dark progression that makes facets read.

Check: Squint at the drawing; adjacent facets should no longer look identical, and the L-to-D order should match the labels.

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Original tasks 4 / complete keys

Task 4

A cast shadow is drawn uniformly dark from contact point to far edge. The boulder base is eight centimeters wide and the shadow extends six centimeters to the lower right. Describe how to adjust the shadow values and why.

Answer: Darken the shadow at the contact edge and gradually lighten it toward the far edge six centimeters away. The contact darkening anchors the boulder; the lighter far edge shows the shadow spreading.

Reason: A cast shadow is darkest where the object meets the ground and softens as it extends. Uniform darkness flattens the relationship between boulder and ground.

Check: Compare the contact shadow with the darkest facet; contact should be darker. Compare the far edge with the lightest facet; far edge should still be darker than the lightest facet but lighter than the contact.

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Source rubric / reflection

- [ ] Outline is closed and wider than tall with at least two gentle bumps.
- [ ] Four to six facets are marked with internal lines ending on the outline.
- [ ] Each facet has one consistent value and a visible L, M, or D label.
- [ ] Light direction is recorded once and agrees with facet values and shadow direction.
- [ ] Cast shadow extends opposite the light, is darkest at contact, and lightens outward.
- [ ] Facet edges remain distinguishable; blending does not erase planes.
- [ ] Alternative conventions such as cross-hatching are acceptable if light direction stays consistent.

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