Draw a Snow Globe: Base, Dome, and Interior Scene

Original tasks 1, 2 / complete keys

Task 1

A snow globe drawing has a total height of 12 cm. The base is 4 cm tall and the dome is 8 cm tall. The base width is 6 cm and the dome width at the rim is 5 cm. Where should the base rim line be placed, and what is the dome height above the rim?

Answer: The base rim line is at 4 cm from the bottom. The dome height above the rim is 8 cm, reaching 12 cm total.

Reason: Total height equals base height plus dome height: 4 + 8 = 12 cm. The rim is at the top of the base, so it is 4 cm above the bottom. The dome extends from 4 cm to 12 cm, which is 8 cm.

Check: Add the base and dome heights and compare with the total. Mark the rim at 4 cm on a vertical line and confirm the dome top is 8 cm above it.

Task 2

Inside a dome, the floor line is 1 cm above the base rim. The dome width at 4 cm above the floor line is 6 cm. You want to place a house whose width is 3 cm. Will the house fit with at least 1 cm empty space on each side at that height?

Answer: Yes. The house is 3 cm wide, leaving 1.5 cm on each side if centered, which is at least 1 cm.

Reason: Available width is 6 cm. Subtract the house width: 6 - 3 = 3 cm total empty space. Split equally, each side gets 1.5 cm. Since 1.5 cm is greater than 1 cm, the house fits with the required gap.

Check: Center the house and measure the gap on each side. Confirm each gap is at least 1 cm. If the house is not centered, check the smaller gap.

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Original tasks 3, 4 / complete keys

Task 3

A base top ellipse is drawn 8 cm wide and 2 cm deep. The dome rim is also 8 cm wide. Using the shallow-ellipse check from the lesson (depth must be less than one quarter of the width), is this ellipse shallow enough? If not, suggest a depth that passes.

Answer: No, it is not shallow enough under the check. One quarter of 8 cm is 2 cm, and the depth equals 2 cm, so it does not satisfy the requirement that depth be less than one quarter of width. A depth below 2 cm, such as 1.5 cm, passes.

Reason: The check compares depth to width. 8 divided by 4 is 2. A depth of 2 cm equals one quarter of the width, which fails the strict 'less than one quarter' condition. Equality is not enough; the depth must be smaller than 2 cm to pass. A depth such as 1.5 cm makes the base look more solid and clearly shallow.

Check: Measure the ellipse width and depth. Divide the width by 4. If the depth is greater than or equal to that value, flatten the ellipse until the depth is strictly less than one quarter of the width.

Task 4

You draw a dome with a side highlight and a top highlight. The side highlight is 2 cm long and the top highlight is 1 cm long. The dome outline is 10 cm tall. Is the total highlight length less than one third of the dome height?

Answer: Yes. Total highlight length is 3 cm. One third of 10 cm is about 3.33 cm. Since 3 cm is less than 3.33 cm, the highlights are within the limit.

Reason: Add the highlight lengths: 2 + 1 = 3 cm. Divide the dome height by 3: 10 / 3 is about 3.33 cm. Compare 3 cm with 3.33 cm. The highlights are short enough to keep the dome mostly clear.

Check: Measure the highlight lines and add them. Measure the dome height and divide by 3. Confirm the total highlight length is less than that value.

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Source rubric / reflection

- [ ] Base is drawn as a solid form with a shallow top ellipse (depth less than one quarter of its width) and a bottom arc that curves oppositely.
- [ ] Dome springs from the base rim, is smooth, and is not pinched or balloon-like.
- [ ] Interior scene has one main object and fits inside the dome with visible empty space.
- [ ] Dome reads as glass: clear outline, few highlights, most of the dome unshaded.
- [ ] Line weight convention is used consistently: medium for structure, light for scene details.
- [ ] Valid alternatives are accepted: different scene objects, different base shapes, and different highlight placements are allowed if the checks pass.

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