Draw a Sugar Skull: Symmetry, Eye Flowers, and Cheek Stars

Original tasks 1, 2, 3 / complete keys

Task 1

A skull is 12 cm tall. Eye flower centers are 2.5 cm from the center line and 1 cm above the midline. Cheek star centers are 3 cm from the center line and 2 cm below the midline. What is the vertical distance between an eye flower center and a cheek star center on the same side?

Answer: 3 cm.

Reason: The eye flower is 1 cm above the midline and the cheek star is 2 cm below it. Add the distances: 1 cm + 2 cm = 3 cm.

Check: Measure the vertical gap on your drawing between the two centers; it should read about 3 cm.

Task 2

A student places the left eye flower center 2.5 cm from the center line and the right eye flower center 3.0 cm from the center line. Both are 1 cm above the midline. What adjustment makes the placement symmetrical?

Answer: Move the right center inward by 0.5 cm to 2.5 cm from the center line, or move the left outward to 3.0 cm.

Reason: Symmetry requires equal distances from the center line. The difference is 3.0 cm − 2.5 cm = 0.5 cm, so one side must shift by 0.5 cm.

Check: Measure both distances from the center line after adjusting; they should match within 2 mm.

Task 3

The left cheek star is 1.5 cm across and the right is 1.2 cm across. Both centers are 3 cm from the center line and 2 cm below the midline. What is the size difference, and what is one valid fix?

Answer: Difference is 0.3 cm. Fix: redraw the right star to 1.5 cm across, or redraw both at 1.2 cm.

Reason: Subtract the smaller size from the larger: 1.5 cm − 1.2 cm = 0.3 cm. Matching sizes restores balance.

Check: Measure both stars across their widest points; they should match within 2 mm.

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Original tasks 4 / complete keys

Task 4

An eye flower has 7 petals on the left and 5 on the right. The centers are correctly placed. What is the petal difference, and what is one valid fix that keeps the flower readable?

Answer: Difference is 2 petals. Fix: add two petals to the right flower to reach 7, or remove two from the left to reach 5.

Reason: Subtract the smaller count from the larger: $7 - 5 = 2$. Equal counts restore balance while keeping five to seven petals, which remains readable.

Check: Count petals on each flower after adjusting; counts should match and stay between five and seven.

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Source rubric / reflection

- [ ] Skull outline is symmetrical within 2 mm at top, cheek, and jaw when measured from the center line.
- [ ] Eye flower centers are equal distances from the center line and at the same height above the midline.
- [ ] Eye flowers have equal petal counts and do not cross the skull outline.
- [ ] Cheek stars are equal distances from the center line, at the same height below the midline, and similar in size.
- [ ] Shading is consistent in direction and leaves eye flowers and cheek stars unshaded for contrast.
- [ ] Lettering or small marks follow the stated convention: x-height is baseline to midline; letter styles may vary and are judged for consistency, not a single universal form.

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