Venus Drawing: Crescent Phase and Stylized Cloud Bands

Original tasks 1, 2 / complete keys

Task 1

Sketch a Venus crescent on a 3 cm radius circle. Draw a curved terminator that bows toward the left edge, so the narrow lit crescent lies between the left rim and the terminator and is about one third of the circle diameter. Add one stylized cloud-top band on the lit side.

Answer: A 3 cm radius circle with a curved terminator near the left edge at its widest point, leaving a narrow left lit crescent about one third of the 6 cm diameter (about 2 cm wide). Shade the larger right night side evenly and add one soft curved band within the left lit area.

Reason: With the terminator near the left rim, the illuminated strip between the rim and curve is narrow. One third of the 6 cm diameter is 2 cm. Keep the band inside the left lit area and curved with the disc.

Check: Measure the maximum horizontal width of the left lit crescent and compare it with the 6 cm diameter; it should be about 2 cm. Confirm the terminator bows toward the same left side as the crescent and the band remains inside the lit area.

Task 2

Draw a Venus sketch with a crescent phase and three stylized cloud-top bands. Use a 5 cm radius circle and space the bands proportionally within the lit crescent, for example about 0.3–0.5 cm apart as a hypothetical practice value. Describe where the terminator sits.

Answer: A 5 cm radius circle with a curved terminator offset to create a narrow lit crescent on one side, three soft stylized cloud-top arcs spaced about 0.3–0.5 cm apart within the lit crescent, and even shading on the night side. The terminator sits offset from the center toward the lit edge so the lit crescent is clearly narrower than the dark side.

Reason: A larger circle allows clearer band spacing, but the crescent stays narrow, so bands must be spaced proportionally inside it rather than at a fixed 1 cm. The terminator is offset enough to keep the crescent narrow, and bands follow the curvature on the lit side for visibility.

Check: Check that the crescent is narrower than the dark side. Count three bands and confirm each curves with the circle. Spacing is approximate and proportional to the crescent width; measure your own drawing if needed.

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Original tasks 3, 4 / complete keys

Task 3

Create a Venus sketch where the terminator is a curved arc offset toward the left edge so the lit crescent is on the left. Shade the night side and add two stylized cloud-top bands that curve with the planet. Then state one way to verify the phase is a crescent.

Answer: A circle with a terminator offset toward the left edge, shaded right night side, two stylized cloud-top arcs on the left lit side, and a verification that the lit region is smaller than the dark region.

Reason: Offsetting the terminator toward the left edge makes the left region the smaller lit crescent and the right side dark. The crescent check compares lit and dark areas. Bands must follow the curve to look natural.

Check: Compare the lit and dark areas by eye or with a light grid. The lit area should be clearly smaller. Confirm stylized bands curve with the edge.

Task 4

Draw a Venus sketch on a 4 cm radius circle with a crescent phase and two stylized cloud-top bands. Use a hypothetical 2B pencil for shading. After drawing, list two mistakes to avoid and how your sketch avoids them.

Answer: A 4 cm radius circle with a curved terminator creating a narrow crescent, even night-side shading, two stylized cloud-top arcs on the lit side, and a note that the terminator is curved (not straight) and bands follow the curve (not straight stripes).

Reason: The exercise combines phase, shading, and bands. Naming mistakes reinforces the conventions. The pencil grade is a practice choice, not a standard.

Check: Verify the terminator is an arc, the crescent is narrower than the dark side, and stylized bands curve with the planet. Check that shading is even on the night side only.

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Source rubric / reflection

- [ ] Circle is round and centered; construction lines are faint or erased.
- [ ] Terminator is a curved arc meeting the circle at two points.
- [ ] Lit crescent is clearly narrower than the dark side.
- [ ] Night side is shaded evenly; lit side remains mostly clear.
- [ ] Two or three stylized cloud-top arcs follow the planet's curve and sit mostly on the lit side.
- [ ] Bands are lighter than the terminator and do not look like straight stripes.
- [ ] Overall sketch is readable at a glance as Venus with a crescent phase.

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