Vegetable Contour Drawing: Compare Edges and Shapes

Original tasks 1, 2, 3 / complete keys

Task 1

A carrot has lower height 8 cm, upper height 2 cm, and width at midline 3 cm. Draw a measured contour in a bounding box and label all measurements.

Answer: Total height is 10 cm. Bounding box is 3 cm wide and 10 cm tall. Midline is 8 cm above baseline. Widest point is 3 cm at midline. Contour tapers to a point at the top over 2 cm and to the baseline over 8 cm.

Reason: The baseline-to-midline convention sets the widest point at the midline. Adding lower and upper height gives total height. The width is measured across the midline.

Check: Verify that 8 + 2 = 10 and that the widest point touches the midline at 3 cm width.

Task 2

A bell pepper has lower height 5 cm, upper height 5 cm, and width at midline 7 cm. Draw a measured contour and write one sentence comparing its width-to-height ratio to the carrot in Exercise 1.

Answer: Total height is 10 cm. Bounding box is 7 cm wide and 10 cm tall. Midline is 5 cm above baseline. Widest point is 7 cm at midline. Width-to-height ratio is 7:10. The carrot ratio is 3:10, so the pepper is much wider relative to its height.

Reason: Equal lower and upper heights place the midline at the middle. The ratio compares width to total height using the same units.

Check: Confirm 5 + 5 = 10 and that the ratio 7:10 is greater than 3:10.

Task 3

An onion has lower height 4 cm, upper height 6 cm, and width at midline 6 cm. Draw a measured contour. Then draw a second onion with lower height 6 cm, upper height 4 cm, and width 6 cm. Label both and state one difference.

Answer: First onion: total height 10 cm, midline 4 cm above baseline, width 6 cm. Second onion: total height 10 cm, midline 6 cm above baseline, width 6 cm. Difference: the widest point sits lower on the first onion and higher on the second.

Reason: Changing lower and upper heights while keeping total height constant moves the midline. The width stays the same, so the difference is vertical placement of the widest point.

Check: Check that both totals are 10 cm and that the midline positions match the lower heights.

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Original tasks 4 / complete keys

Task 4

A cucumber has lower height 7 cm, upper height 3 cm, and width at midline 4 cm. A second cucumber has lower height 3 cm, upper height 7 cm, and width 4 cm. Draw both at the same scale in one comparison drawing. Label baselines, midlines, and total heights. Write one sentence about their shapes.

Answer: Both have total height 10 cm and width 4 cm. First cucumber midline is 7 cm above baseline; second is 3 cm above baseline. The first is widest near the bottom; the second is widest near the top. Their width-to-height ratios are equal at 4:10.

Reason: Same scale means same total height and same width units. The comparison shows that equal ratios can still produce different shapes when the midline position changes.

Check: Verify both totals are 10 cm, both widths are 4 cm, and the midline labels match the lower heights.

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Source rubric / reflection

- [ ] Contour follows the described edge with no large invented bulges or dents.
- [ ] Baseline and midline are marked and consistent with the measurements.
- [ ] Lower height plus upper height equals total height.
- [ ] Width is measured at the midline and labeled with units.
- [ ] Comparison drawing uses the same scale for both vegetables.
- [ ] Labels are legible; letter style may vary.
- [ ] No shading or decoration replaces contour accuracy.

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