Grid-Drawn Phineas-Style Face: Stepwise Feature Placement

Original tasks 1, 2, 3 / complete keys

Task 1

A grid drawing uses a head height of 9 squares. Where should the eye line be placed below the top of the head, and what is one practical hand-drawing value?

Answer: One-third of 9 squares is 3 squares. A practical hand-drawing value is exactly 3 squares below the top.

Reason: The convention places the eye line at one-third of the head height below the top. Dividing 9 by 3 gives 3, which is a whole number and easy to mark.

Check: Count 3 squares down from the top of the head along the midline and confirm the eye line is level across the face.

Task 2

A head width is 8 squares. The eye centers are placed 1.5 squares left and right of the midline. What is the eye spacing, and how many squares remain between each eye center and the side of the bounding box?

Answer: The eye spacing is 3 squares. Each eye center is 4 squares from the side of the bounding box, so 2.5 squares remain between each eye center and the side.

Reason: Eye spacing is the distance between the two eye centers: 1.5 plus 1.5 equals 3 squares. Half the head width is 4 squares, and 4 minus 1.5 equals 2.5 squares from each eye center to the side.

Check: Count from the midline to each eye center (1.5 squares), add the two distances for spacing (3 squares), and count from each eye center to the bounding box side (2.5 squares).

Task 3

A face uses a head height of 10 squares. The nose is placed 1 square below the eye line, and the mouth is placed 1.5 squares below the nose. How far below the top of the head is the mouth, using the one-third eye-line rule?

Answer: The eye line is about 3.33 squares below the top. The mouth is 1 plus 1.5 equals 2.5 squares below the eye line, so the mouth is about 5.83 squares below the top.

Reason: One-third of 10 is about 3.33. Add the nose offset (1) and the mouth offset (1.5) to get 2.5, then add to 3.33 to get about 5.83 squares below the top.

Check: Count down from the top: about 3.33 squares to the eye line, 1 more to the nose, and 1.5 more to the mouth; confirm the total is about 5.83 squares.

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Original tasks 4 / complete keys

Task 4

A student draws the hair first, then the head outline, and finds the hair extends 1 square past the bounding box on each side. The head width is 6 squares. What is the hair width, and what is one fix that keeps the hair within the box?

Answer: The hair width is 6 plus 1 plus 1 equals 8 squares. One fix is to redraw the hair so it spans at most 6 squares, centered on the midline, and stays above the head outline.

Reason: The hair extends 1 square past the box on each side, adding 2 squares to the 6-square head width. The fix is to limit the hair width to the bounding box width and keep it above the head.

Check: Count the hair width in squares and compare it to the head width; confirm the hair does not extend past the bounding box sides.

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Source rubric / reflection

- [ ] Head outline is closed, centered on the midline, and fits inside the stated bounding box.
- [ ] Eye line is marked at one-third of the head height below the top, within half a square.
- [ ] Both eyes are level, equally spaced from the midline, and recorded as the chosen spacing.
- [ ] Nose and mouth are centered on the midline and placed below the eye line in order.
- [ ] Hair is attached above the head outline and stays within the bounding box width.
- [ ] All placements use the same unit (one square) and are checkable by counting squares.

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