Realistic Hand Drawing: Knuckle and Crease Study

Original tasks 1, 2 / complete keys

Task 1

A described diagram shows a hand with wrist-to-knuckle distance 60 mm and knuckle-to-fingertip distance 66 mm. The palm width is 72 mm. The four finger widths are 16 mm, 18 mm, 17 mm, and 14 mm. Calculate the finger-width sum and compare it with palm width. State whether the difference is plausible for a relaxed hand.

Answer: Finger-width sum = 16 + 18 + 17 + 14 = 65 mm. Palm width = 72 mm. Difference = 72 - 65 = 7 mm. A 7 mm difference is plausible for a relaxed hand because fingers overlap slightly and the palm is wider than the sum of separated finger widths.

Reason: Add the four finger widths, then subtract from palm width. A small positive difference is expected; a large difference would suggest a proportion error.

Check: Re-add the four widths in a different order and confirm the sum is 65 mm. Confirm units are millimeters throughout.

Task 2

A described diagram shows light from the upper right. The knuckle ridge runs from left to right with the middle knuckle slightly forward. Identify which side of each knuckle should receive the shadow and which side should receive the highlight. Explain your choice in one or two sentences.

Answer: With light from the upper right, the shadow falls on the lower-left side of each knuckle, and the highlight sits on the upper-right ridge. The hollow between fingers is darkest on its left side. This follows the stated light direction consistently.

Reason: Shading must match the chosen light direction. The side facing away from the light receives shadow; the ridge facing the light receives highlight.

Check: Squint at the described diagram and confirm every shadow is on the lower-left and every highlight on the upper-right. If any shadow contradicts the light direction, correct it.

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Original tasks 3, 4 / complete keys

Task 3

A described diagram shows three creases over a knuckle. Crease A crosses the knuckle ridge at 80 degrees, crease B at 20 degrees, and crease C runs parallel to the ridge. Using the bend test, decide which crease is most plausible and which is least plausible. Give a reason for each.

Answer: Crease B at 20 degrees is most plausible because it follows the bend direction and would close smoothly when the finger curls. Crease A at 80 degrees is least plausible because it crosses the ridge at a sharp angle and would not close smoothly. Crease C is possible but less informative because it does not record joint movement.

Reason: The bend test asks whether a crease would close or open smoothly when the joint bends. Creases aligned with the bend direction pass; sharp crossings fail.

Check: Imagine curling the finger and trace each crease. Confirm that B closes smoothly, A pinches awkwardly, and C stays mostly unchanged.

Task 4

A described diagram shows a hand with a recorded x-height of 10 mm. One finger width measures 22 mm. Express the finger width as a multiple of x-height using simple arithmetic. Then state one limitation of using x-height as a proportion check.

Answer: 22 mm divided by 10 mm equals 2.2, so the finger width is about 2.2 x-heights. Limitation: x-height depends on the writer's letter style and can vary, so it is a personal measuring aid rather than a universal standard. The numerical values are hypothetical examples.

Reason: Divide the finger width by the recorded x-height to get a multiple. The limitation follows from the definition: letter styles vary, so the convention is not universal.

Check: Multiply 2.2 by 10 mm to recover 22 mm. Confirm the limitation statement mentions letter-style variation and labels the values as hypothetical.

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Source rubric / reflection

- [ ] Knuckle ridge is a shallow arc with the middle knuckle slightly forward.
- [ ] Creases are short, broken lines that follow joint movement and pass the bend test.
- [ ] One light direction is stated and shading varies from shadow core to highlight.
- [ ] Proportion checks use a recorded x-height and consistent units; numerical values are labeled hypothetical.
- [ ] Valid alternatives are accepted: different light directions, letter styles, and crease counts are allowed if internally consistent.

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