Draw a Hand Holding a Pencil: Grip, Knuckle Mass, and Wrist Angle

Original tasks 1, 2, 3 / complete keys

Task 1

A side-view hand holds a pencil. Assume the index tip, the pencil contact point, and the main knuckle arc all lie along one line on the back of the hand. The index tip is 1 pencil-width unit beyond the contact point, and the main knuckle arc is 1 unit behind the finger bases, which coincide with the contact point. What is the distance from the index tip to the main knuckle arc along that line?

Answer: 2 pencil-width units.

Reason: The index tip is 1 unit beyond the contact point and the knuckle arc is 1 unit behind the same contact point, on the same line, so the two offsets add: 1 + 1 = 2 units.

Check: Re-read the stated collinear assumption and the two 1-unit offsets, then add them. Confirm the result is in pencil-width units, not centimeters.

Task 2

A drawing shows the thumb tip and index tip pointing in the same direction, both above the pencil. Using the grip logic in this lesson, describe one change that would make the grip read as a wrap.

Answer: Rotate the thumb so its pad opposes the index side of the shaft, and curl the index tip back toward the palm.

Reason: A wrap requires opposing forces around the shaft. Same-direction tips read as a pinch. Opposing the thumb and curling the index creates contact on opposite sides.

Check: Trace the thumb and index contact points; confirm they sit on opposite sides of the pencil line.

Task 3

You draw four fingers with equal curl and equal length. The ring and little fingers touch the pencil. Identify the two grip-logic errors and state a correction for each.

Answer: Error 1: ring and little fingers should not touch the pencil; curl them tighter behind the middle finger. Error 2: equal curl and length looks stiff; vary lengths slightly and keep only index and middle in contact with the shaft.

Reason: In a pencil grip, the ring and little fingers support the hand, not the shaft. Equal curl removes the overlapping arcs that show mass.

Check: Check contact points: only index and middle should meet the pencil. Check that ring and little fingers overlap behind the middle finger.

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Original tasks 4 / complete keys

Task 4

A palm block is drawn 2 units tall and 3 units long. The wrist cylinder enters at 25 degrees from vertical. The pencil line is drawn at 40 degrees from vertical. State whether the wrist and pencil angles are consistent with a relaxed writing posture in this lesson, and give one check.

Answer: They are plausibly consistent if the pencil angles back toward the shoulder while the wrist tilts moderately. Check that the pencil line remains straight and that the wrist angle is less steep than the pencil angle.

Reason: The lesson uses a hypothetical 20 to 30 degree wrist tilt and a pencil that angles back. A 25 degree wrist and 40 degree pencil fit that relationship. The values are examples, not standards.

Check: Measure both angles from vertical with the same reference line; confirm wrist is within the stated example range and pencil is straighter than the wrist.

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Source rubric / reflection

- [ ] Pencil is drawn as a single straight shaft crossing the palm block.
- [ ] Palm block and wrist angle are established before fingers.
- [ ] Index and middle fingers curl around the shaft; ring and little fingers curl tighter behind.
- [ ] Knuckle mass is shown with continuous arcs, not isolated circles.
- [ ] Thumb opposes the index finger around the shaft.
- [ ] Proportion units are stated and used consistently; hypothetical values are labeled.
- [ ] Valid stylistic alternatives are accepted if grip logic and mass arcs remain clear.

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