Hand Drawing Guidelines: Palm Block, Finger Segments, and Proportion Overlay

Original tasks 1, 2, 3 / complete keys

Task 1

A palm block is 40 mm tall. The middle finger is 36 mm, the index finger is 34 mm, and the little finger is 26 mm. Compute the palm-to-middle-finger ratio and the middle-to-little-finger ratio.

Answer: Palm-to-middle: 40:36, or about 1.11:1. Middle-to-little: 36:26, or about 1.38:1.

Reason: Divide the first value by the second in each pair and keep the same unit. The ratios are simple checkable arithmetic.

Check: Recompute both divisions and confirm the units cancel; compare the ratios to your reference overlay.

Task 2

A student places knuckle dots at 10 mm, 20 mm, 30 mm, and 40 mm along a 50 mm knuckle edge. Are the dots evenly spaced, and what is the gap between the last dot and the edge?

Answer: The gaps between dots are 10 mm each, so the dots are evenly spaced. The gap from the last dot to the edge is 10 mm.

Reason: Subtract consecutive positions: 20-10=10, 30-20=10, 40-30=10. Then subtract the last dot from the edge length: 50-40=10.

Check: Add the three inter-dot gaps (10+10+10=30 mm) and the final edge gap (50-40=10 mm): 30+10=40 mm of dot span plus 10 mm edge gap equals the 50 mm knuckle edge; confirm the dots are evenly spaced at 10 mm intervals.

Task 3

A thumb base segment is 18 mm and the distal thumb segment is 14 mm. The palm height is 45 mm. Compute thumb total length and the thumb-to-palm ratio.

Answer: Thumb total length is 18+14=32 mm. Thumb-to-palm ratio is 32:45, or about 0.71:1.

Reason: Add the two thumb segments in the same unit, then divide by palm height. The result is a simple ratio for overlay checking.

Check: Re-add 18 and 14 to get 32, then divide 32 by 45 and compare with your reference measurement.

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Original tasks 4 / complete keys

Task 4

A finger cylinder is 8 mm wide at the knuckle and 5 mm wide at the tip. The palm width is 50 mm. Compute the taper amount and the knuckle-width-to-palm-width ratio.

Answer: Taper amount is 8-5=3 mm. Knuckle-width-to-palm-width ratio is 8:50, or about 0.16:1.

Reason: Subtract tip width from knuckle width for taper. Divide knuckle width by palm width for the ratio, keeping units consistent.

Check: Confirm 5+3=8 for the taper, and recompute 8 divided by 50 to verify the ratio.

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Source rubric / reflection

- [ ] Palm block is drawn first and is clearly labeled at wrist and knuckle edges.
- [ ] Four knuckle dots are evenly spaced along the knuckle edge.
- [ ] Each finger has a center line and a tapered cylinder guide with joint dots.
- [ ] Thumb is attached to the side of the palm block and angled away from the index finger.
- [ ] Proportion overlay includes wrist, thumb base, knuckle, and fingertip guides.
- [ ] At least one ratio is measured and recorded with consistent units.
- [ ] Labels use the baseline-to-midline x-height convention; letter style may vary.
- [ ] Final contour is generic and open, with no grips, fists, or foreshortening.

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