Sketch a Nail: Head, Shank, and Point Construction

Original tasks 1, 2, 3 / complete keys

Task 1

Using the lesson convention, plan a nail sketch with total length 40 mm. State the head, shank, and point zone lengths and the head and shank widths using the example proportions.

Answer: Head 4 mm, shank 30 mm, point 6 mm; head width 8 mm, head height 4 mm, shank width 4 mm (hypothetical examples).

Reason: Apply 10 percent, 75 percent, and 15 percent to 40 mm: 4, 30, and 6 mm. Scale the example widths down proportionally: head width 8 mm, head height 4 mm, shank width 4 mm.

Check: Add the zones: 4 + 30 + 6 = 40 mm. Confirm head width 8 mm is greater than shank width 4 mm.

Task 2

A sketch has total length 70 mm with zones of 7 mm, 52.5 mm, and 10.5 mm. Verify whether the zone percentages match the lesson convention and state the check arithmetic.

Answer: Yes, the zones match 10 percent, 75 percent, and 15 percent of 70 mm.

Reason: 10 percent of 70 is 7; 75 percent is 52.5; 15 percent is 10.5. The given zones equal these values.

Check: Sum the zones: 7 + 52.5 + 10.5 = 70 mm. Compare each zone with its percentage of the total.

Task 3

Describe how to correct a nail sketch whose shank lines measure 3 mm and 5 mm from the centerline at the top, and 4 mm and 4 mm at the bottom. State the target and the correction.

Answer: The top is asymmetric; adjust the 3 mm side outward or the 5 mm side inward until both sides are equal, for example 4 mm and 4 mm, matching the bottom.

Reason: Symmetry requires equal distances from the centerline at each height. The bottom is already symmetric at 4 mm and 4 mm, so the top should match within 1 mm.

Check: Re-measure both sides at the top and bottom; accept when each pair differs by no more than 1 mm.

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Original tasks 4 / complete keys

Task 4

Plan a nail sketch with total length 90 mm using the lesson convention. Give the zone lengths, choose hypothetical head and shank widths, and list three final checks.

Answer: Zones: head 9 mm, shank 67.5 mm, point 13.5 mm. Hypothetical widths: head width 18 mm, head height 9 mm, shank width 6 mm. Checks: zones sum to 90 mm; head wider than shank; point ends at one tip on the centerline.

Reason: Apply 10 percent, 75 percent, and 15 percent to 90 mm. Scale widths upward from the lesson examples while keeping the head wider than the shank.

Check: Verify 9 + 67.5 + 13.5 = 90 mm; confirm 18 mm head width exceeds 6 mm shank width; confirm the taper ends at a single centerline tip.

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Source rubric / reflection

- [ ] Total length is marked and the three zone lengths sum to it.
- [ ] Head is clearly wider than the shank and its style is stated.
- [ ] Shank lines are parallel and symmetric about the centerline within 1 mm.
- [ ] Point tapers from the shank edges to one tip on the centerline.
- [ ] Labels for head, shank, point, and total length are present and readable.
- [ ] Chosen numerical values are labeled as hypothetical examples or replaced with measured values.
- [ ] Valid alternative head styles are accepted if the sketch remains clear and labeled.

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