Skeleton Overlay Tracing: A Photo-Based Drawing Exercise

Original tasks 1, 2 / complete keys

Task 1

A photo shows a right leg with hip, knee, and ankle joints. You measure hip-to-knee as 50 mm and knee-to-ankle as 45 mm. You measure hip-to-ankle as 90 mm. Apply the triangle rule and state whether the joints are consistently placed.

Answer: Sum of segments is 50 + 45 = 95 mm. The straight-line hip-to-ankle distance is 90 mm. Since 90 mm is less than 95 mm and greater than the difference 50 - 45 = 5 mm, the triangle rule is satisfied. The joints are consistently placed within this check.

Reason: The triangle rule states that the longest side must be less than or equal to the sum of the other two sides and greater than or equal to their difference. Here 90 is between 5 and 95, so the check passes.

Check: Re-measure the three distances with a ruler in millimeters and confirm the values before applying the rule.

Task 2

You draw a practice box 40 mm by 30 mm (hypothetical example). Inside, you place three joint circles. The distances between them are 12 mm, 15 mm, and 20 mm. Does this set of distances satisfy the triangle rule?

Answer: The longest side is 20 mm. The sum of the other two sides is 12 + 15 = 27 mm. The difference is 15 - 12 = 3 mm. Since 20 mm is between 3 mm and 27 mm, the triangle rule is satisfied.

Reason: Check the longest side against the sum and difference of the other two sides. 20 is less than 27 and greater than 3, so the distances are consistent.

Check: Measure each distance again with a ruler and confirm the longest side is 20 mm before applying the rule.

Skeleton Overlay Tracing: A Photo-Based Drawing Exercise

Original tasks 3, 4 / complete keys

Task 3

A photo shows a left arm with shoulder-to-elbow 30 mm and elbow-to-wrist 25 mm. You measure shoulder-to-wrist as 60 mm. Does the triangle rule pass or fail? Explain.

Answer: The sum of the two segments is 30 + 25 = 55 mm. The straight-line shoulder-to-wrist distance is 60 mm. Since 60 mm is greater than 55 mm, the triangle rule fails. At least one joint is misplaced and should be re-marked.

Reason: A straight line between two points cannot be longer than the sum of two segments connecting the same points through a third point. Here 60 exceeds 55, so the placement is inconsistent.

Check: Re-measure shoulder-to-elbow, elbow-to-wrist, and shoulder-to-wrist with a ruler. If the values are correct, adjust the elbow joint and re-measure.

Task 4

You label a joint line with the text '42 mm' placed alongside the line without obscuring it. A second label is placed on the opposite side of the same line, also without obscuring the line or joint circles. Is the second label acceptable under the convention?

Answer: Yes. The convention requires labels to be legible and placed so they do not obscure joint circles or connecting lines; the side of the line does not matter.

Reason: The rubric requires legible labels that do not obscure joints or lines; label side or style is not the criterion.

Check: Verify that the label is legible and does not obscure the joint circle or connecting line.

Skeleton Overlay Tracing: A Photo-Based Drawing Exercise

Source rubric / reflection

- [ ] All joint circles are marked and at least 8 mm apart (hypothetical example; adjust to your photo).
- [ ] All connecting lines are straight and drawn with a ruler.
- [ ] Every connecting line is labeled with its length in millimeters, placed alongside the line without obscuring the line or joint circles.
- [ ] Three lines are re-measured and compared with recorded values; differences are noted.
- [ ] The triangle rule is applied to at least one chain of three joints.
- [ ] Labels are legible and do not obscure joint circles or connecting lines.

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