Animal Anatomy for Drawing: Mapping Joints and Muscle Groups

Original tasks 1, 2, 3, 4 / complete keys

Task 1

A rear limb spans 4 x-height units from hip to ground. The thigh mass covers 1.5 units. Where is the knee placed, and what lower portion remains?

Answer: Knee is 1.5 units below hip; lower portion = 4 - 1.5 = 2.5 x-height units.

Reason: Subtract the thigh mass coverage from total limb length using the same unit.

Check: Re-add 1.5 + 2.5 = 4 units and confirm the knee mark sits at 1.5 below hip.

Task 2

A front limb has shoulder at 0, elbow at 1, and wrist at 2.5 x-height units above ground. What is the forearm length, and how many joint marks lie between shoulder and ground?

Answer: Forearm length = 2.5 - 1 = 1.5 units; three joint marks (shoulder, elbow, wrist) lie between shoulder and ground.

Reason: Subtract elbow position from wrist position; count the marked joints.

Check: Confirm 1 + 1.5 = 2.5 and count the three crosses on the limb.

Task 3

A torso midline is 2 x-height units above baseline. A shoulder mass spans 0.8 units vertically and starts at the midline. What is its lower edge height above baseline?

Answer: Lower edge = 2 - 0.8 = 1.2 x-height units above baseline.

Reason: Subtract the mass span from the midline height.

Check: Add 1.2 + 0.8 = 2.0 to return to the midline.

Task 4

You label six muscle groups A through F and eight joints 1 through 8. Each joint must connect to at least one mass. If joints 1, 2, and 3 connect to mass A, how many joints remain to be assigned?

Answer: Five joints remain (8 - 3 = 5).

Reason: Subtract assigned joints from total joints.

Check: Count unassigned numbers 4 through 8 and confirm five labels.

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Source rubric / reflection

- [ ] All eight joint landmarks are marked and numbered.
- [ ] Muscle groups are lettered and connect to adjacent joints.
- [ ] X-height is defined as baseline to midline and used consistently.
- [ ] Labels are legible in any chosen letter style with a key.
- [ ] Arithmetic checks use one unit and label hypothetical values as examples.
- [ ] The map stays generic and avoids breed-specific construction.

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