Space Marine Drawing: Armor Proportions and Pose Construction

Original tasks 1, 2, 3 / complete keys

Task 1

A space marine drawing has a total height of 8 HU and each HU is 4 cm. Where should the shoulder line and hip line be marked from the baseline?

Answer: Shoulder line at 26 cm and hip line at 16 cm from the baseline.

Reason: Helmet midline is at 8 HU minus 0.5 HU = 7.5 HU from baseline, which is 30 cm. Shoulder line is 1 HU below helmet midline: 30 cm minus 4 cm = 26 cm. Hip line is 2.5 HU below shoulder line: 26 cm minus 10 cm = 16 cm.

Check: Measure total height, divide by 8 to confirm HU, then subtract the HU values in order. Verify that leg length from hip to baseline is about 4 HU (16 cm).

Task 2

A figure is 7.5 HU tall with HU = 2 cm. The chest center is 9 cm from the left edge and the supporting ankle is 11 cm from the left edge. Is the pose balanced within 0.5 HU?

Answer: No, the pose is not balanced. The difference is 2 cm, which exceeds 0.5 HU (1 cm).

Reason: 0.5 HU equals 1 cm. The horizontal difference between chest center and supporting ankle is 11 cm minus 9 cm = 2 cm. Since 2 cm is greater than 1 cm, the balance check fails.

Check: Compute 0.5 HU in centimeters, then compare the horizontal distance between chest center and supporting ankle. If the distance is greater, adjust the pose.

Task 3

A space marine is drawn with a helmet of 1.2 HU and total height of 8 HU. The legs measure 3.5 HU from hip to baseline. Identify two proportion errors and state a fix for each.

Answer: Error 1: helmet is too large (1.2 HU instead of about 1 HU). Fix: reduce helmet to 1 HU. Error 2: legs are too short (3.5 HU instead of about 4 HU). Fix: move hip line up or lengthen legs to about 4 HU.

Reason: The convention sets helmet at about 1 HU and leg length at about 4 HU. Deviations of 0.2 HU and 0.5 HU are noticeable and should be corrected before adding detail.

Check: Measure helmet height and leg length in HU. Compare to the convention values and adjust the construction marks.

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Original tasks 4 / complete keys

Task 4

Describe how to place pauldrons on a figure whose shoulder joints are 6 cm apart horizontally, with the left shoulder joint at 0 cm and the right shoulder joint at 6 cm from a left reference. The pauldrons should extend 0.5 HU outward, with HU = 3 cm. Give the horizontal positions of the outer edges relative to the same left reference.

Answer: Each pauldron extends 1.5 cm outward from its shoulder joint. The left pauldron outer edge is at 0 cm minus 1.5 cm = -1.5 cm from the left reference, and the right pauldron outer edge is at 6 cm plus 1.5 cm = 7.5 cm from the same reference.

Reason: 0.5 HU equals 1.5 cm. Pauldrons are centered on shoulder joints and extend outward by that amount. The outer edges are therefore 1.5 cm beyond each joint: 1.5 cm to the left of the left joint and 1.5 cm to the right of the right joint.

Check: Measure the horizontal distance from each shoulder joint to the pauldron outer edge and confirm it equals 0.5 HU in centimeters. Check that pauldrons overlap the upper arm mass slightly.

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Source rubric / reflection

- [ ] Total height is 7.5 to 8 HU and the helmet is about 1 HU.
- [ ] Shoulder line is about 1 HU below helmet midline and hip line about 2.5 HU below shoulder line.
- [ ] Leg length from hip to baseline is about 4 HU.
- [ ] Pauldrons are centered on shoulder joints and connect to the upper arms.
- [ ] Pose is balanced: chest center within 0.5 HU of supporting ankle.
- [ ] Armor masses are distinct and readable; surface detail does not obscure proportions.
- [ ] Valid alternatives: bulky or sleek armor, symmetrical or dynamic pose, as long as the convention is applied consistently.

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