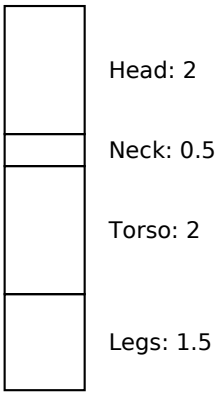
Android Drawing: Build a Robot Figure with Head, Antenna, and Limb Segments

EXERCISE 1 / ANSWERS

Plan a six-unit android with a two-unit head, a half-unit neck gap, a two-unit torso, and legs one and one-half units total. What total height does this plan produce, and is it six units?

Exercise 1 / listed zones



Total: 6 units

The parts sum to two plus half plus two plus one and one-half, which equals six units. Yes, the plan fits six units exactly.

Why: Add the head, neck gap, torso, and legs in the same unit. The sum equals the planned total, so no adjustment is needed.

Check: Recount each part on the page and confirm the sum is six units before drawing final lines.

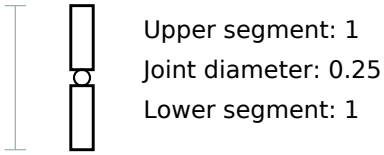
- ☐ I labeled the included zones and checked the same unit.
- ☐ Left/right segments match; any separate joint gap is stated.
- ☐ I kept final contour heavier than panel guides.

Hypothetical drawing units, not hardware or anatomy standards. Unit diagrams use a common scale within each drawing; miniature step panels are reduced. Only explicitly listed zones enter each task sum. The standing body excludes its antenna; knee disks fit within leg zones.

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EXERCISE 2 / ANSWERS

An android has a three-unit torso and two arms. Each arm has an upper segment of one unit and a lower segment of one unit, with a joint circle of one-quarter unit between them. What is the total length of one arm including the joint circle?



1 + 0.25 + 1 = 2.25 units

One arm is one plus one-quarter plus one, which equals two and one-quarter units.

Why: Add the upper segment, the joint circle, and the lower segment. The joint circle is part of the arm length in this convention.

Check: Measure the upper segment, joint circle, and lower segment separately, then add the three values.

- [ ] I labeled the included zones and checked the same unit.
- [ ] Left/right segments match; any separate joint gap is stated.
- [ ] I kept final contour heavier than panel guides.

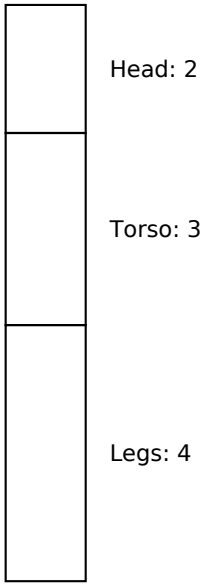
Hypothetical drawing units, not hardware or anatomy standards. Unit diagrams use a common scale within each drawing; miniature step panels are reduced. Only explicitly listed zones enter each task sum. The standing body excludes its antenna; knee disks fit within leg zones.

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EXERCISE 3 / ANSWERS

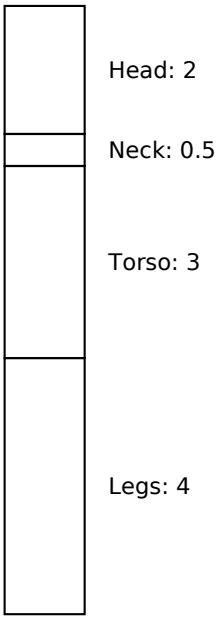
A drawing plan uses a head two units tall, a torso three units tall, and legs four units tall, but leaves no neck gap. The planned total is nine units. Does the plan fit, and what change makes it fit?

Exercise 3 / no gap



Total: 9 units

Exercise 3 / add gap



Total: 9.5 units

The parts sum to two plus three plus four, which equals nine units. The plan fits nine units. If a half-unit neck gap is required, the total becomes nine and one-half units, so either remove the gap or increase the planned height to nine and one-half units.

Why: Add the three main parts first. Then add any required gap and compare to the planned total.

Check: Write the part lengths and the gap on the page, add them, and compare the sum to the planned height.

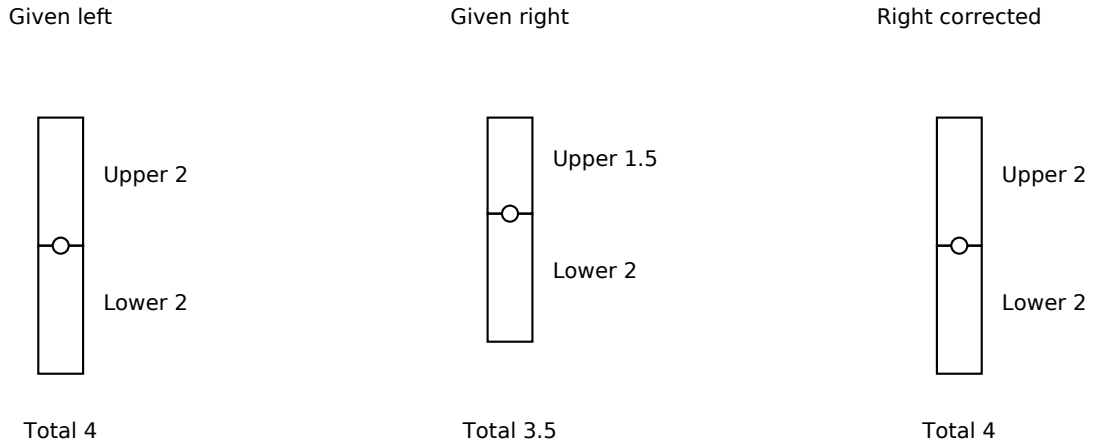
- ☐ I labeled the included zones and checked the same unit.
- ☐ Left/right segments match; any separate joint gap is stated.
- ☐ I kept final contour heavier than panel guides.

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EXERCISE 4 / ANSWERS

An android's left upper leg is two units and its right upper leg is one and one-half units. The lower legs are both two units. What is the difference in total leg length, and how do you correct it?



Given difference: 4 - 3.5 = 0.5 unit; extend right upper leg by 0.5.

The left leg totals four units and the right leg totals three and one-half units, so the difference is one-half unit. Correct it by remeasuring the right upper leg from the hip joint and extending it to two units, or by shortening the left upper leg to one and one-half units.

Why: Add each leg's upper and lower segments separately, then subtract the smaller total from the larger. The correction must use the same unit and start from the joint circle.

Check: Measure both upper legs from the hip joint and compare them directly; then re-add each leg's segments to confirm they match.

- [ ] I labeled the included zones and checked the same unit.
- [ ] Left/right segments match; any separate joint gap is stated.
- [ ] I kept final contour heavier than panel guides.

Hypothetical drawing units, not hardware or anatomy standards. Unit diagrams use a common scale within each drawing; miniature step panels are reduced. Only explicitly listed zones enter each task sum. The standing body excludes its antenna; knee disks fit within leg zones.