Draw a Properly Proportioned Cross to Scale

EXERCISE 1 / PRACTICE

Construct a cross with ratio 4:1 and scale factor 3. State post height and arm length, describe the grid steps, and perform the check.

Use one square for one chosen task unit. Each arm is measured from the post center to one horizontal end. The grid is not a centimetre ruler.

Record the measured values and check the ratio:

Post height	Each arm: center to end	Post / each arm

☐ I checked the measured ratio against the task ratio.

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EXERCISE 2 / PRACTICE

A drawing has post height 18 units and arm length 6 units. What ratio does it express, and what scale factor was used if the base ratio is 3:1?

Use one square for one chosen task unit. Each arm is measured from the post center to one horizontal end. The grid is not a centimetre ruler.

Record the measured values and check the ratio:

Post height	Each arm: center to end	Post / each arm

☐ I checked the measured ratio against the task ratio.

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EXERCISE 3 / PRACTICE

Construct a cross with ratio 2:1 and scale factor 7, but place the arm line halfway down the post. State measurements and check the ratio.

Use one square for one chosen task unit. Each arm is measured from the post center to one horizontal end. The grid is not a centimetre ruler.

Record the measured values and check the ratio:

Post height	Each arm: center to end	Post / each arm

- [ ] I checked the measured ratio against the task ratio.

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EXERCISE 4 / PRACTICE

Your measured post height is 20 units and arm length is 4 units. You intended ratio 4:1. Is the drawing correct, and what should you do if it is not?

Use one square for one chosen task unit. Each arm is measured from the post center to one horizontal end. The grid is not a centimetre ruler.

Record the measured values and check the ratio:

Post height	Each arm: center to end	Post / each arm

- [ ] I checked the measured ratio against the task ratio.