

The Scout's Calibration

Before a researcher trusts a high-resolution lens, they must calibrate it against a known object. In this block, we will perform a manual audit using the “blueprints” of the system before revealing the shortcut that does it all.

Step 1: The Manual Labor (The 10.3.2 Method)

Navigate to r.statypus.org and locate the code template in **Section 10.3.2**. Use those blueprints to calculate the 95% **Confidence Interval** (our “Safety Net”) for the following specimen:

```
iris$Sepal.Width[iris$Species == "setosa"]
```

Manual Audit Log

Sample Mean (\bar{x}): _____
 Degrees of Freedom (df): _____
 Manual 95% Confidence Interval: [_____, _____]

Step 2: The “Drop the Mic” Moment

Now that you have felt the friction of the manual calculation, let the Universal Lens do the work. Run this single line in your console:

```
t.test(iris$Sepal.Width[iris$Species == "setosa"])
```

The Universal Lens Output

mean of x: _____
 df: _____
 95 percent confidence interval: [_____, _____]

Researcher's Reflection

- The Identity Check:** Compare the values in the gray box to your log above. They are not “new” numbers; they are the exact same results you just calculated. Why is it vital for a researcher to understand these “blueprints” before relying on the “Lens” (`t.test`)?
- The Efficiency Audit:** In the time it took you to find the template on the website, you could have run a dozen `t.test` calls. How does this speed change your ability to explore data in the wild?

Record your reflection answers on the back of this page.

Field Note: The lens doesn't just give you the answer; it gives you the evidence. The mean and the interval are the boundaries of the population's soul.