Hypothesis testing.

① State null and alternative hypotheses

H_0:

H_1:

*make sure it is clear what is being tested

② What assumptions are you going to rely on? Are they satisfied?

③ Choose a test statistic (some function of the data).

A good test statistic, T,
  (i) measures evidence against H_0.
  (ii) has known statistical behaviour when H_0 is true.

④ Compute the observed value of the test statistic, t_0.

⑤ Compute

p-value $= P\left(\begin{array}{c}\text{at least as much evidence against} \\ H_0 \text{ as } t_0 \text{ assuming } H_0 \text{ true}\end{array}\right)$

↑
the observed test statistic.

⑥ Decision: smaller p-values $\Longleftrightarrow$ more evidence against H_0.