Say whether the following are true or false:

• To calculate a confidence interval, you need to know the true value of the population mean.
  
  – False: you need to know the sample mean.

• To calculate a P-value, you need to assume that the true value of the population mean is some specific number.
  
  – True: to do a concrete probability calculation, you need to assume you know how the population is distributed, in particular, the pop. mean.

• Confidence intervals are always centered at the population mean.
  
  – False: confidence intervals are centered at the sample mean.
Say whether the following are true or false:

• A high P-value proves that the null hypothesis is right.
  – False: a high P-value means the data is *consistent* with the null hypothesis, but does not prove it is right.

• To calculate a P-value, all you need to know is the sample size, the sample mean, the population standard deviation, and an assumed value for the population mean.
  – False: you *also* need to know the alternative hypothesis

• Suppose you form a C-level confidence interval, and the interval does *not* contain the number $\mu_0$. Then we could reject the null hypothesis $H_0: \mu=\mu_0$ at the 1-C-level of significance
  – True: see diagrams from class notes