Suppose you have a random sample of size 17 from a normal population with unknown mean and a standard deviation of 2. Follow the steps to creating an 80% confidence interval for the mean of the population. The outcome of the sample mean is 5.

Step 1: Write down a probability statement involving the sample mean.

Step 2: Isolate the population mean in the probability statement.

Step 3: Write down the random interval, which will contain the population mean with probability 80%.

Step 4: Write down the outcome of the random interval (interval estimator). This is an 80% confidence interval (interval estimate).