

## Sampling distributions and estimation

What is a sampling distribution?

What are the mean and standard deviation for our statistic from this distribution?

Depends on the statistic we're interested in (often  $\bar{y}$ ).

What is the distribution of this statistic (usually  $\bar{y}$ )?

Understand the CLT (yes, you should know this abbreviation for the **C**entral **L**imit **T**heorem).

Know how to calculate probabilities for our sample statistics

For example, be able to do  $\Pr\{\bar{Y} < 6 \text{ feet}\}$ , if given  $\mu$ ,  $\sigma$  and  $n$ .

What is the standard error?

Why do we use it?

What does the *SE* tell us, particularly in respect to  $\bar{y}$ ?

What is the effect of samples size on the SE?

How are  $\mu$ ,  $\sigma$ ,  $\bar{y}$ , and  $s$  affected by the sample size?