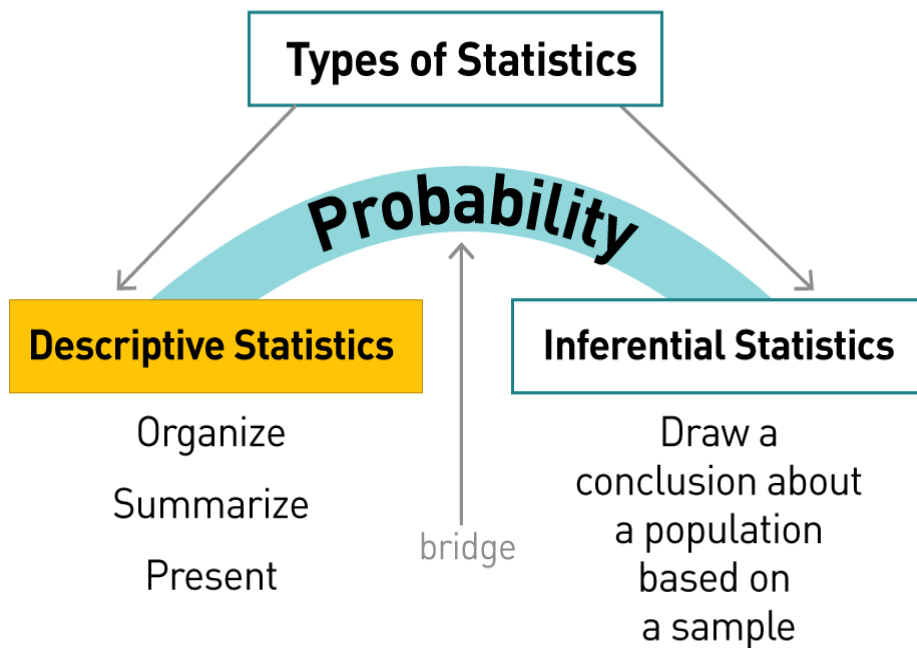
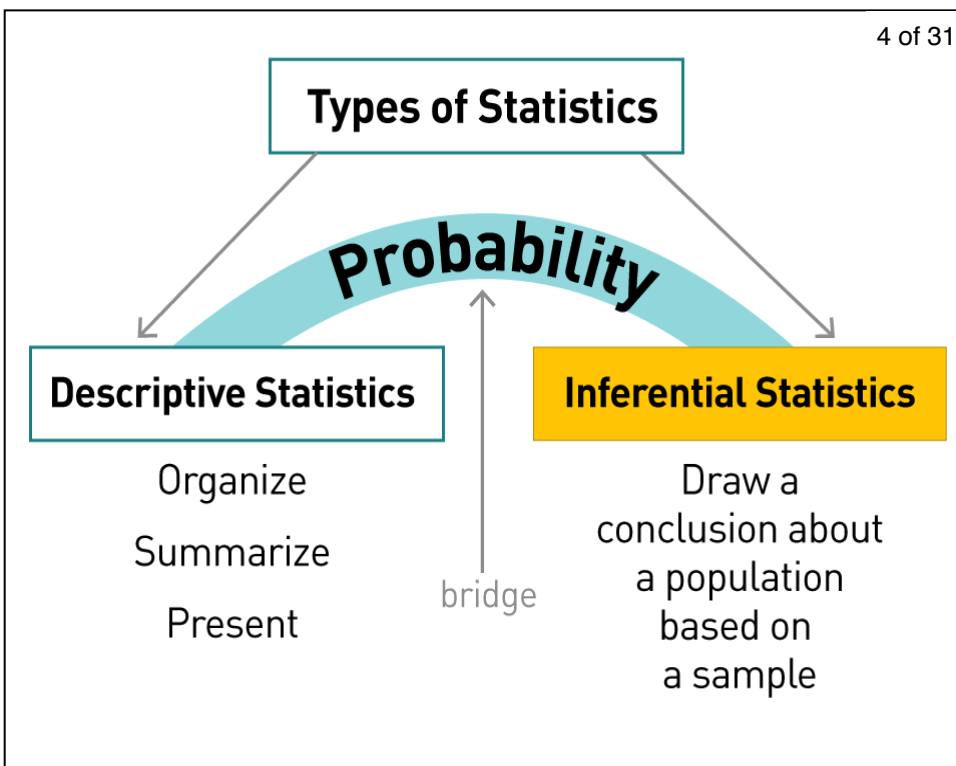
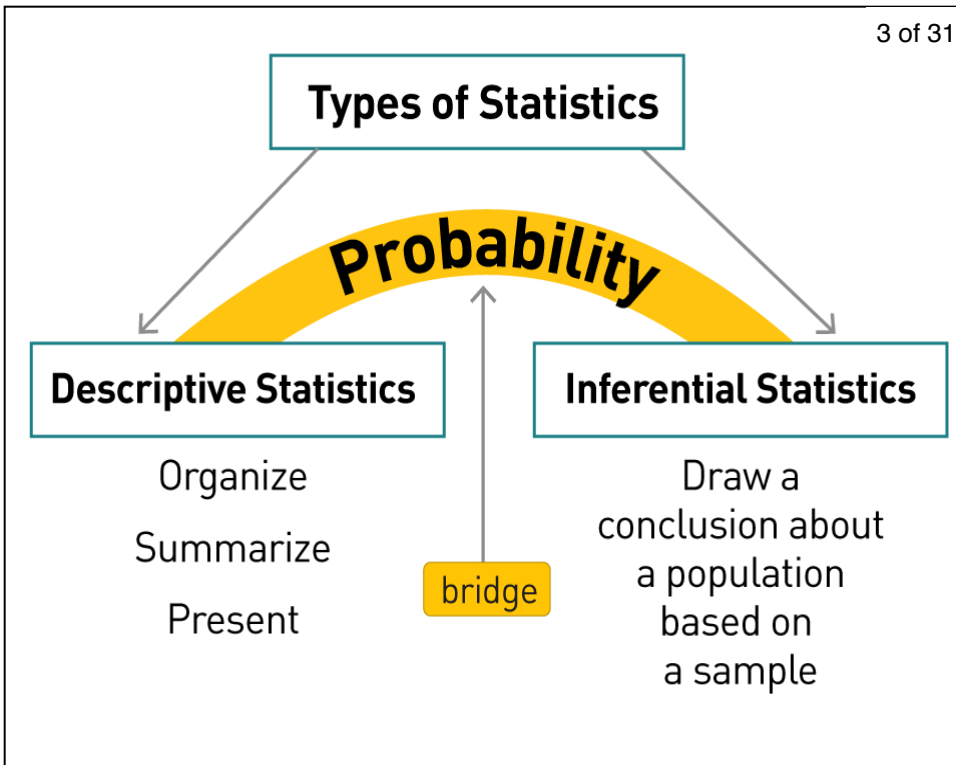


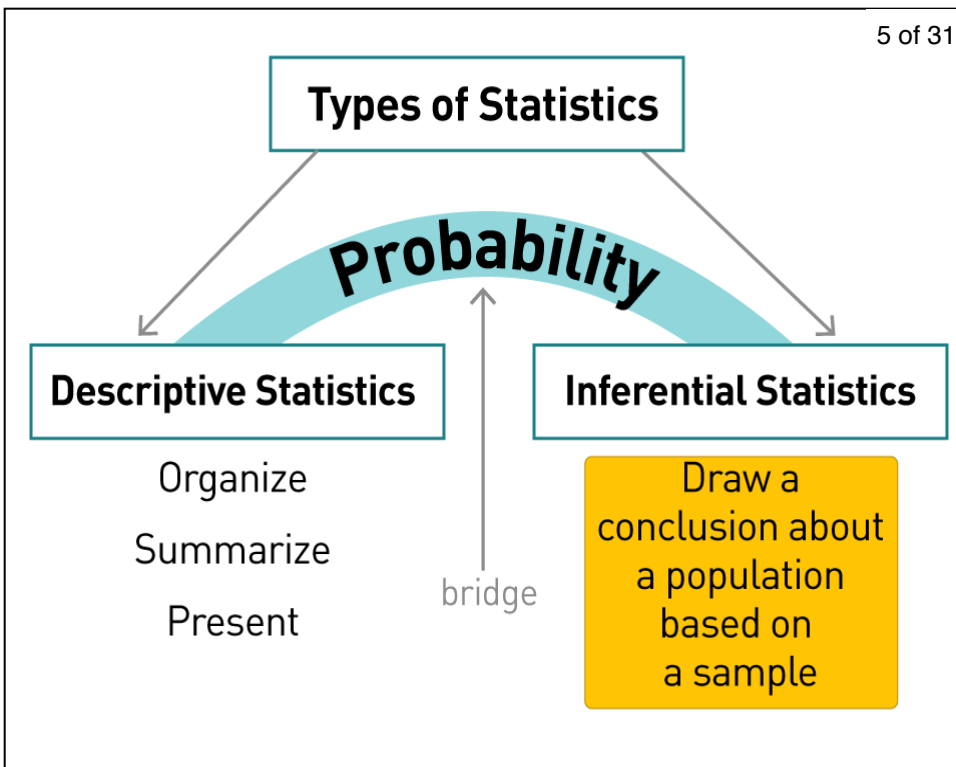
## 3.7 Writing Hypothesis Statements

**MBC 638**

**Data Analysis and Decision Making**







## Uses of Hypothesis Testing



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Locus of equality condition

$H_0: \mu = 10$

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There *is* a difference!

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Captures "other" results

Locus of equality condition

$$H_0: \mu = 10$$

There is *no* difference!

### Alternative hypothesis

$H_a: \mu \text{ or } \sigma \neq (\text{or } <, \text{ or } >) \text{ a number}$

Captures results of interest

$$H_a: \mu \neq 10$$

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There *is* a difference!



**Example:**  
**Hank the Handyman's Process**

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Did we really improve Hank's job ticket process?

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**In this case, we compare mean time for job tickets moving through Hank's system.**

**Example:**  
**Hank the Handyman's Process (cont.)**

Did we really improve Hank's job ticket process?

- $H_0: \mu_1 \leq \mu_2$
- $H_a: \mu_1 > \mu_2$

**Example:**  
**Hank the Handyman's Process (cont.)**

Did we really improve Hank's job ticket process?

- $H_0: \mu_1 \leq \mu_2$
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