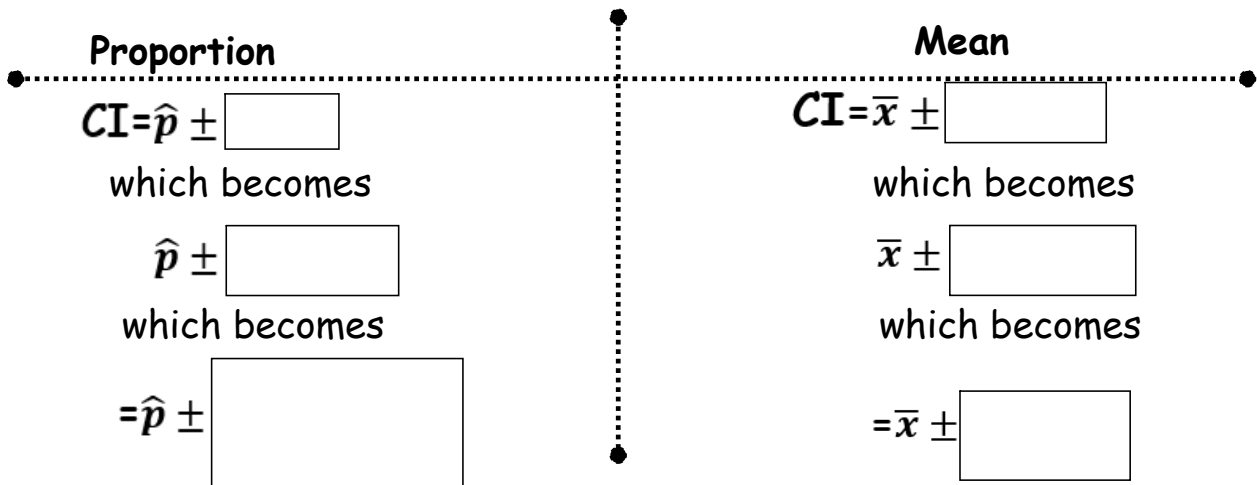


# Confidence Levels

- If we apply the margin of error to a parameter, such as a  or , we are able to calculate a range called a  , abbreviated as CI. This  represents the   of the parameter in  samples.

## Confidence Interval



- Confidence intervals are often reported as a  and are frequently written using  notation. For example, the notation (4, 5) indicates a confidence interval of 4 to 5. Not and ordered pair
- A  confidence interval indicates a  accurate estimate of the data, whereas a  confidence interval indicates a more  estimate.

Determine the confidence interval for the scenario described.  
Round answers to the nearest tenth.

A sample of 78 cars found the average gas mileage to be 22.3 miles per gallon, with a standard deviation of 2.7 miles per gallon. Estimate a 96% confidence interval.

$n =$

mean =

$s_x =$

Confidence interval =

Confidence level	<input type="text"/>	<input type="text"/>
Critical value ( $z_c$ )	<input type="text"/>	<input type="text"/>

$SEM = \frac{s}{\sqrt{n}} =$    $=$

$MOE = \pm Z_c (SEM)$   
 $=$    
 $=$

$CI = \bar{x} \pm$

$\bar{x} -$

$\bar{x} +$

$CI =$    
 $=$

$CI =$    
 $=$

Confidence interval is (  ,  )