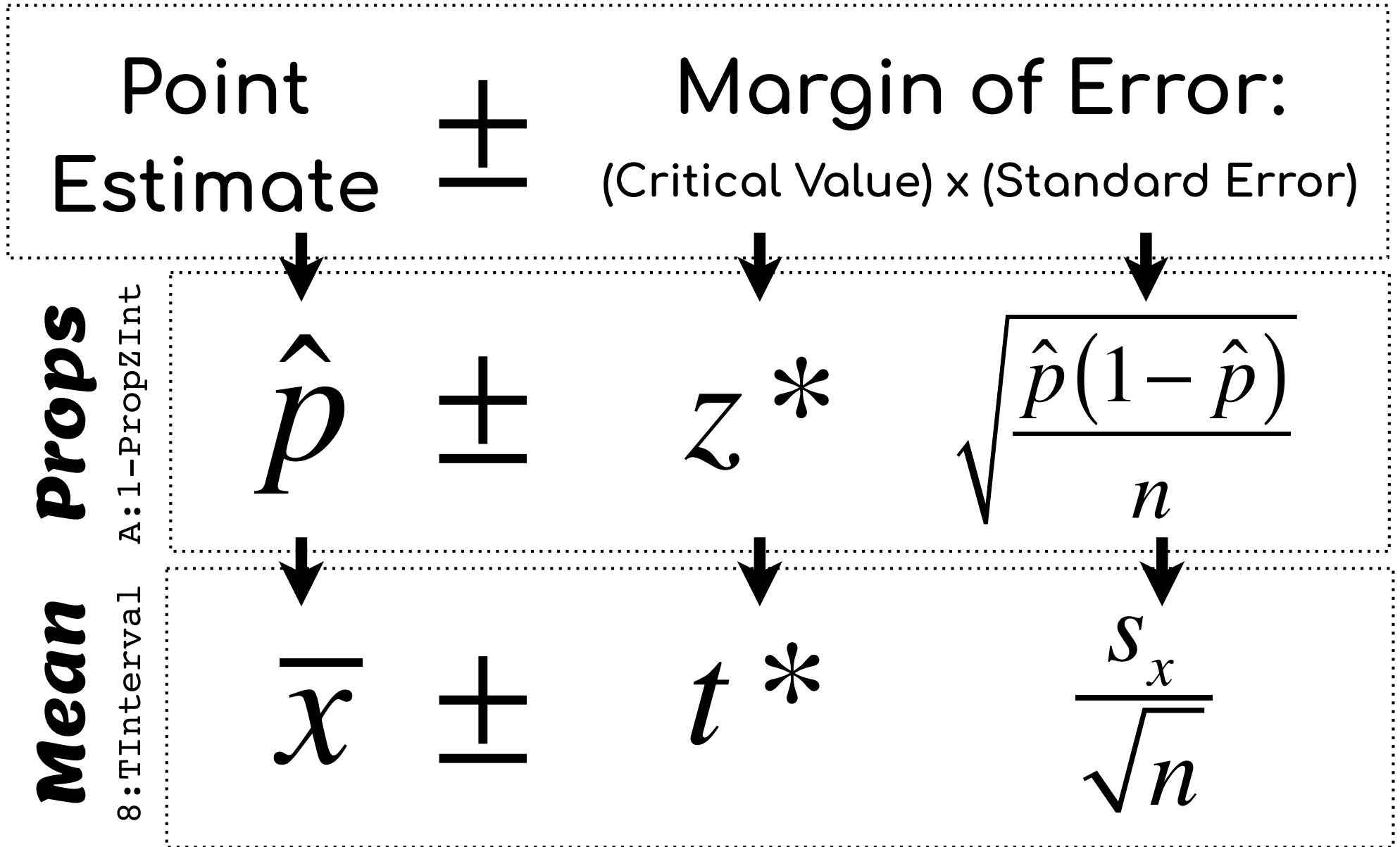


Confidence Interval



Interpreting (Confidence Intervals)

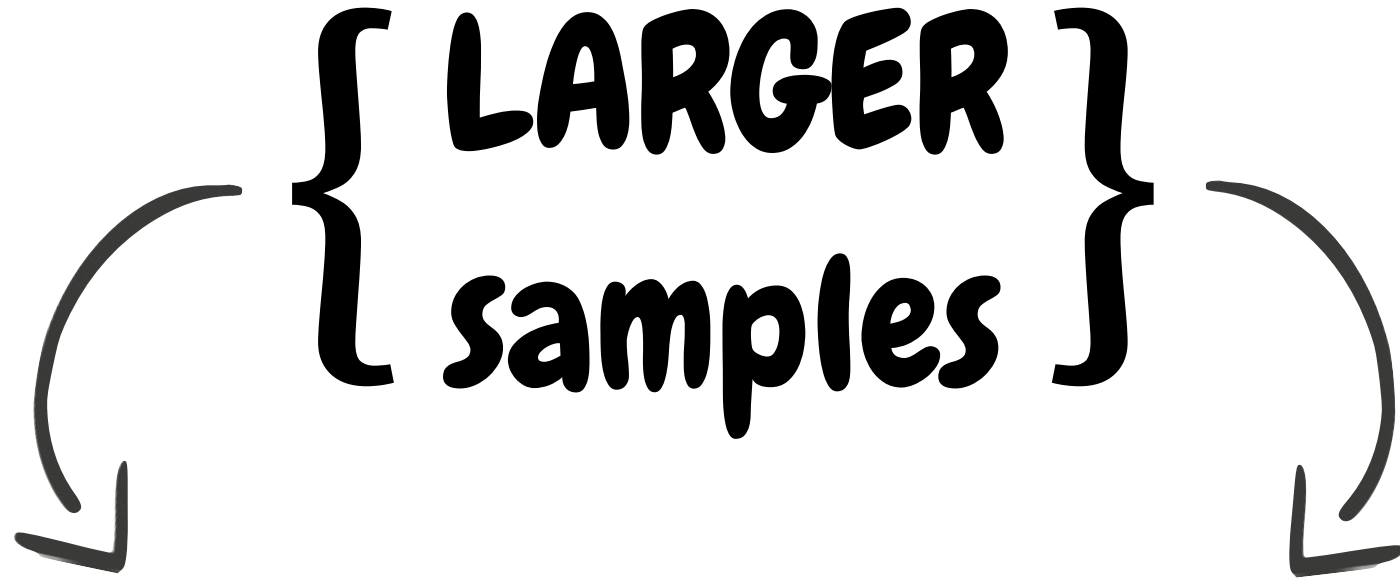
"We are ____ % confident that the interval (____ , ____) captures the true **[parameter in context]**."

Confidence LEVEL:

If we select many random samples from a population and construct a ____% confidence interval using each, about ____% of the intervals would capture the true **[parameter in context]**.

SAMPLE SIZE (*& Confidence Intervals*)

{ LARGER }
{ samples }



[LESS variability] **[INCREASED C%]**

MARGIN OF ERROR

(& Confidence
Intervals)

[DECREASED
C%]

[INCREASE
Sample size]

{ DECREASED }
{ margin of error }

4-Step Process *(Confidence Intervals)*

STATE:

- (1) Parameter of interest**
- (2) Confidence Level (C%)**

PLAN: NAME PROCEDURE!

- (1) Random**
- (2) Independent (10%)**
- (3) Normal**

DO: Construct Interval!

`1-PropZInt()`

OR

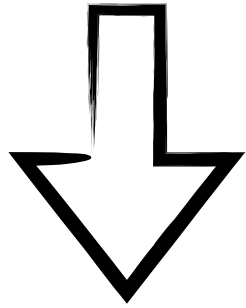
`TInterval()`

CONCLUDE:

INTERPRET!

**“We are 95% confident
that...”**

Conditions for Inference



	\bar{x}	\hat{p}
Random	Data came from a random sample.	
Independent	10% Condition: $n \leq \frac{1}{10} N$	
Normal	<u>Large Counts:</u> $n\hat{p} \geq 10$ $n(1 - \hat{p}) \geq 10$	<u>Must meet ONE:</u> (1) CLT: $n > 30$ (2) Pop is Normal. (3) Sampling dist. is unimodal & symmetric