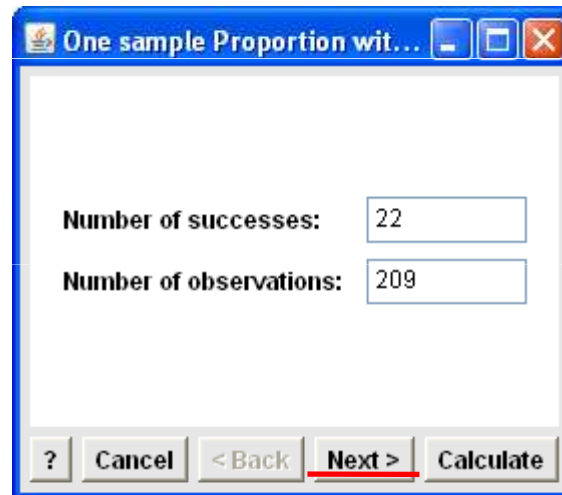


# **How to construct a confidence interval for a proportion**



**STEP 2. Plug-in “Number of Success”: 22**

**>> Plug-in “Number of Obs.”: 209 >> Click Next**

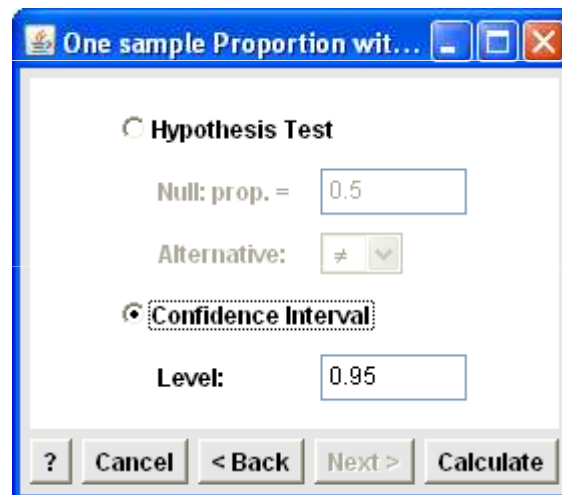


The image shows a software dialog box titled "One sample Proportion wit...". It contains two input fields: "Number of successes:" with the value "22" and "Number of observations:" with the value "209". At the bottom, there are five buttons: "?", "Cancel", "< Back", "Next >", and "Calculate". The "Next >" button is highlighted with a red underline.

Number of successes:	22
Number of observations:	209

? Cancel < Back Next > Calculate

## STEP 3. Select “Confidence Interval”



The image shows a software dialog box titled "One sample Proportion wit...". It contains two radio button options: "Hypothesis Test" and "Confidence Interval". The "Confidence Interval" option is selected. Below "Hypothesis Test", there is a text input field for "Null: prop. =" with the value "0.5" and a dropdown menu for "Alternative:" with the value "≠". Below "Confidence Interval", there is a text input field for "Level:" with the value "0.95". At the bottom of the dialog box, there are five buttons: "?", "Cancel", "< Back", "Next >", and "Calculate".

Hypothesis Test

Null: prop. =

Alternative:  ▼

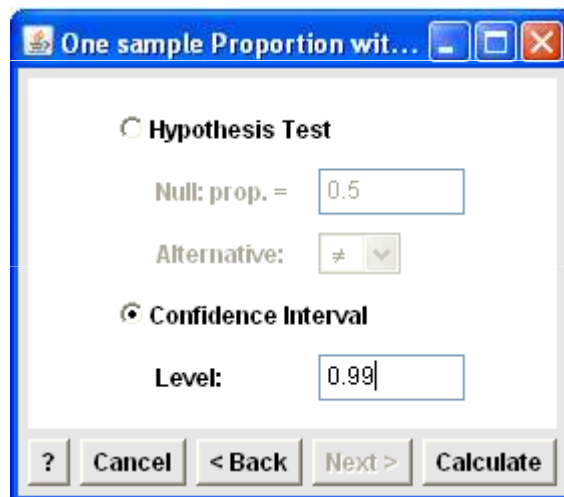
Confidence Interval

Level:

? Cancel < Back Next > Calculate

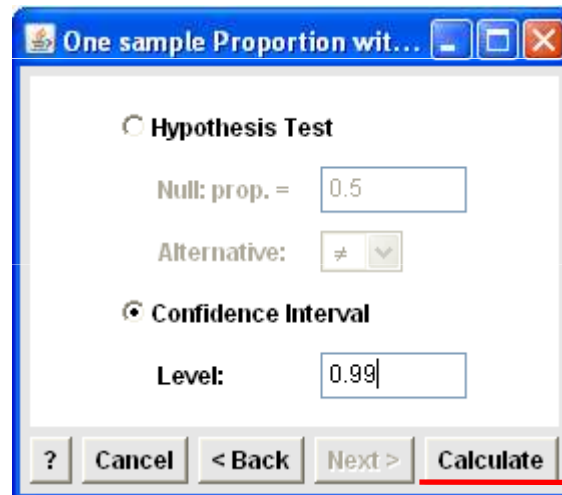
## STEP 4. Plug-in Level

(Example: 95% CI  $\rightarrow$  .95, 99% CI  $\rightarrow$  .99)



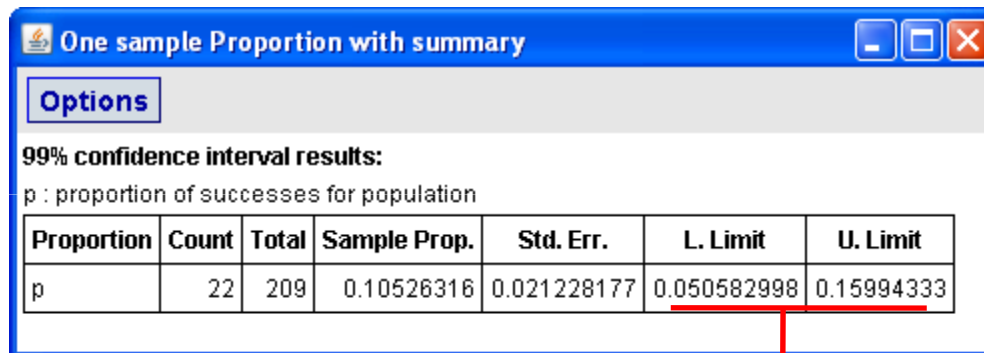
The image shows a software dialog box titled "One sample Proportion wit...". It contains two radio button options: "Hypothesis Test" and "Confidence Interval". The "Confidence Interval" option is selected. Under "Hypothesis Test", there is a text field for "Null: prop. =" with the value "0.5" and a dropdown menu for "Alternative:" with the value "≠". Under "Confidence Interval", there is a text field for "Level:" with the value "0.99". At the bottom of the dialog, there are five buttons: "?", "Cancel", "< Back", "Next >", and "Calculate".

## STEP 5. Click “Calculate”



The image shows a software dialog box titled "One sample Proportion wit...". It contains two radio buttons: "Hypothesis Test" (unselected) and "Confidence Interval" (selected). Under "Hypothesis Test", there is a text input field for "Null: prop. =" containing the value "0.5" and a dropdown menu for "Alternative:" showing the symbol "≠". Under "Confidence Interval", there is a text input field for "Level:" containing the value "0.99". At the bottom, there are five buttons: "?", "Cancel", "< Back", "Next >", and "Calculate". The "Calculate" button is highlighted with a red underline.

## STEP 6. Result Table



The screenshot shows a Minitab dialog box titled "One sample Proportion with summary". It includes an "Options" button and displays the following results for a 99% confidence interval:

99% confidence interval results:  
p : proportion of successes for population

Proportion	Count	Total	Sample Prop.	Std. Err.	L. Limit	U. Limit
p	22	209	0.10526316	0.021228177	0.050582998	0.15994333

Confidence Interval