

MAT123

Spring 2025

Notes

Fri, 2/28, Quiz 4 / Lab 4

=ROUND(RANDBETWEEN(0,1.001),1)

on p& q sheet

in column D

=RAND()*(1-0)+0

in column E

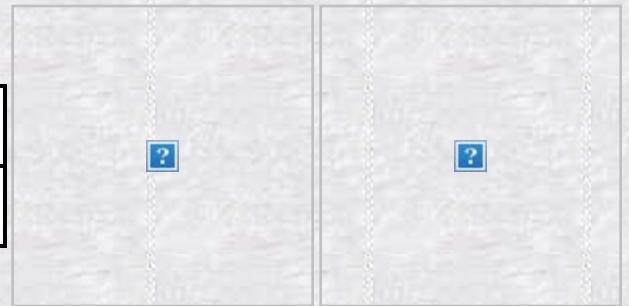
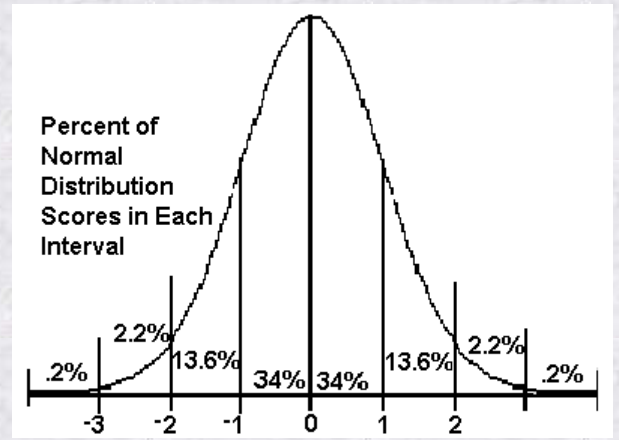
=IF(D6>B6,1,0)

Toss/Trial #	Heads=1, Tails=0	# of HEADS	(# of HEADS)/(# of Tosses)
Experiment	x	Cumulative Sum	Running Average

[pdf of this page](#) [video of this lab](#)

[lab 4 spread sheet](#), IF IT DOWNLOADS!, otherwise just use a blank spreadsheet in Excel

Please submit before semester break on February 7, 2025



TI-83

Excel

Sketchpad

[formulas](#)

No of Tosses	Heads=1, Tails=0	# of HEADS	(# of HEADS)/(# of Tosses)
Experiment	x	Cumulative Sum	Running Average
1	0	0	

1st: Copy/select+ paste from the web page the column heading of rows 4 and 5.

2nd: In Cell N6, place the number 1 for first toss, experiment #1.

3rd: In cells N7, type =, the click on cell N6, then type +1 and then just hit enter.

4th: Sit on cell N7, copy using Control+C,

then select cells N8 thorough N505 and paste this using Control + V.

- III Then, without removing the selected cells, below "File" in the header, select "Paste" and then select "Value"
- III Then, without removing the selected cells, under "Number" in the header, choose the arrow to decrease the number of decimal places till it shows either 0 or 1.
- III If you can not do this all at once, repeat the select and go the next step.

5th: In cell number O6, USING THE TYPED SYMBOLS/CODE ON THE WEB PAGE, copy then paste the following expression/code
`=ROUND(RANDBETWEEN(0,1.001),1)` into C7.

6th: In cell O7, copy using Control+C, the select cells O8 thorough O505 and paste this using Control + V.

- III Then, without removing the selected cells, below "File" in the header, select "Paste" and then select "Value"

7th: Then copy cell N7, using -- sit in cell N7, hit Control + C, then select cells N8 through N505 and Control + V to paste.

8th: Then paste the content of cell N7 into cells N8 through N505, using select and Control + V, to paste.

!!! Then with cells N8 through N505 still selected go to Paste, under File in the header, and choose Value to turn the expressions into numbers.

9th: In cell O6, type =, then select cell N6 then type +I and press ENTER.

10th: In cell O7, type =, then select cell O6, then type +, then select cell O6, then press ENTER..

11th: Sit in cell O7, copy the contents, select cells O8 through O505, paste, then while still sitting on cells O8 through O505, go to Paste under File, choose Value and ENTER to make these cells numbers, not expressions.

12th: You are now ready to compute the percent of HEADS expressed as a decimal, as a probability.

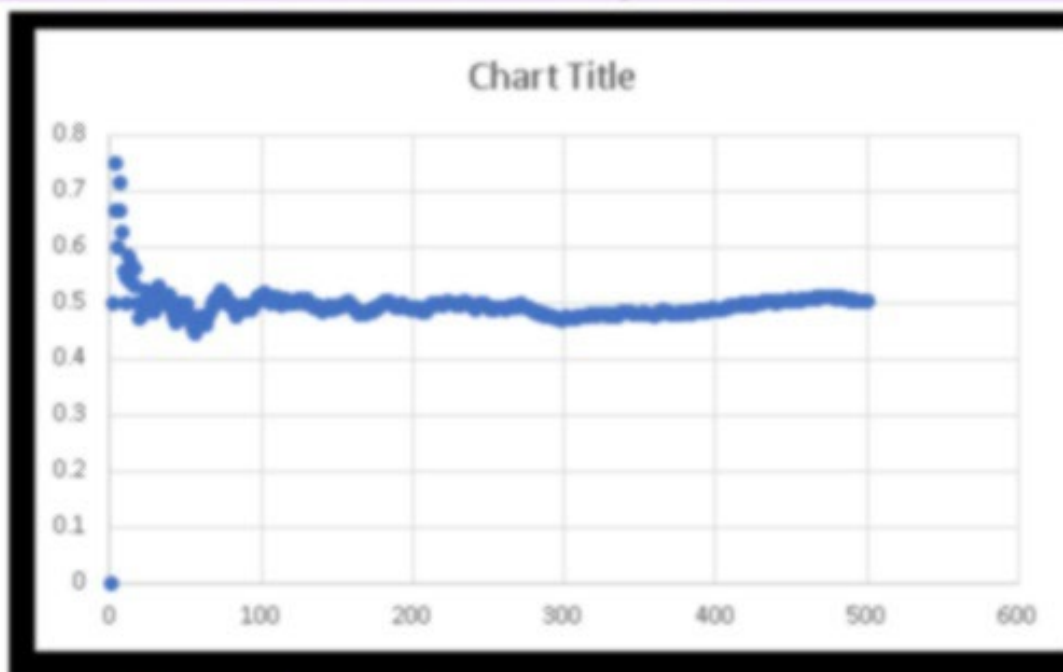
You already know two things and are about to verify that these two statements, by experiment, are true.

- * A fair coin when flipped, should be HEADS about 50% of the time, a probability of .50.
- * The Law Of Large Numbers says, for large numbers the experimental probability should equal the theoretical probability, .5.

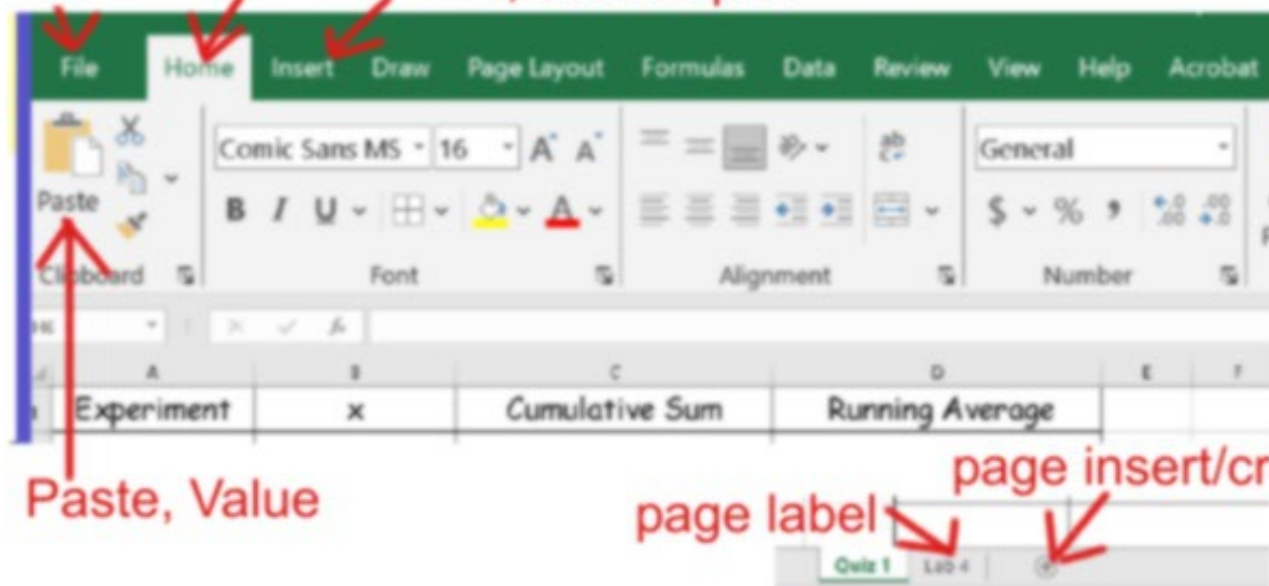
13th: Sit in cell P6 and compute the experimental probability, $(\# \text{ of HEADS}) / ((\# \text{ of tosses}), (\text{cells}) / (\text{cells M}))$ for each experiment.

14th: Sit in cell P7, type =, select cell O7, the divide by, then M7.

15th: Sit in cell P7, copy the contents, select cells P8 through P505, paste, then while still sitting on cells P8 through P505, go to Paste under File, choose Value and ENTER to make these cells numbers, not expressions.



File home insert, scatter-plot



Paste, Value

page label page insert/create