MAT 17A, Winter 2026
Homework 2
Due before 10:00 AM on Wednesday, January 21

Please write the homework solutions in connected sentences and explain your work. Mark the answers to each question. Scan or take pictures of your homework and upload it to Gradescope before due time.

1. (10 points) The formula $C = \frac{5}{9}(F - 32)$ expresses the Celsius temperature C as a function of the Fahrenheit temperature. Find a formula for the inverse function and interpret it.

2. (10 points) The table gives the midyear population of India (in millions):

Year	1950	1960	1970	1980	1990	2000
Population	370	445	554	685	838	1006

a) Make a scatter plot, semilog plot, and log-log plot for these data.
b) Find a linear function which approximates the semilog plot.
c) Use the result of part (b) to find an exponential model for the population.

3. (10 points) Sketch the graph of the function $\ln(100x^5)$ using transformations. *Hint: you might want to simplify the function first*