Your name
Math 87 HW 1
Due 2/02/22

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1. (a) Fill in your answers here. This is how you type things in-line in math mode, $y = f(x)$.

   (b) Here's how you make an equation:

   $$\frac{dy}{dx} = \sin(x)x^2$$

   (c) You can align multiple lines of math like this:

   $$\begin{aligned}
   f(x) &= x^3 - 4x^2 + 3x - 12 \\
   &= x^2(x - 4) + 3(x - 4) \\
   &= (x^2 + 3)(x - 4)
   \end{aligned}$$

2. (a)

   (b) Here's how you make a table to report your results

x_0	iters	x_*
1/2	•	•
2	•	•
10	•	•
−1/2	•	•
−5	•	•

Table 1: Newton's Method

(x_0, x_1)	iters	x_*
$(0, 2)$	•	•
$(0, 10)$	•	•
$(-1, 2)$	•	•
$(-5, 5)$	•	•
$(-10, 2)$	•	•

Table 2: Secant Method

$[x_L, x_R]$	iters	x_*
$[0, 2]$	•	•
$[-5, 5]$	•	•
$[-10, 2]$	•	•
$[-1, 2]$•	•	•
$[0, 1]$	•	•

Table 3: Bisection Method

(c)

(d) Here's how you add an image to your homework: (don't forget to put axis labels and a
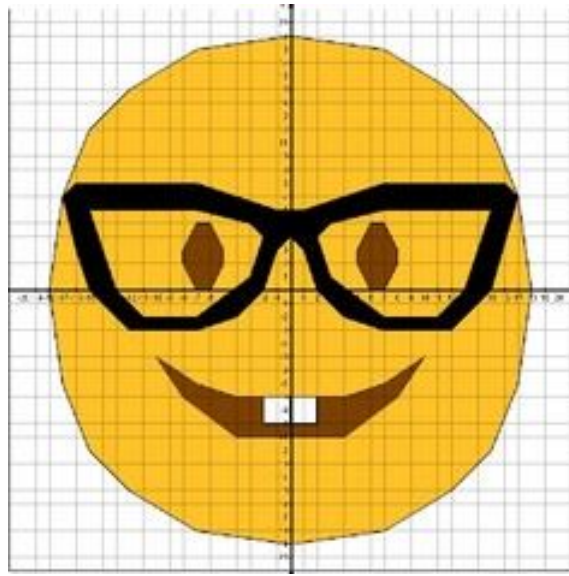title on your plot)

Figure 1: Math is fun!

This is how you do limits:

$$\lim_{x \to -\infty} f(x) = ???$$

(e)