

Math 141A: Class Exercise 1

1. Consider the following function

$$y = \frac{2x^2}{x^2 - 1}$$

- (a) Use Matlab to plot the function for x values $x \in [-7, 7]$. What do you notice?
- (b) Use a function handle to represent the function and once again plot it in the same range.

2. Consider the following function

$$y = x^2$$

- (a) Use Matlab to plot the function for x values $x \in [-5, 5]$. What do you notice?
- (b) Plot the line $y = x^2 + 2$ on the same graph. What points does it appear to intersect $y = x^2$?
- (c) Find the exact point of intersection.

3. Plot the sin and cos functions on the same plot for a full period of the functions.
4. Plot the tan function for a full period.
5. Plot your favorite function.