Math 1210 **Name:** _____

Worksheet 6 **July 22, 2020**

Ex 1. Find the intervals where the $x^2 - x - 6$ is positive/negative.

Ex 2. What are the relative minima/maxima of the following function. Write "DNE" if none exist.

$$f(x) = \frac{5}{3}x^3 - \frac{5}{2}x^2.$$

Ex 3. If f and g are both decreasing on (a, b), then $f - g$ must also be decreasing on (a, b). [Circle your answer]

True **False**

Ex 4. What are the relative minima/maxima of the following function. Write "DNE" if none exist.

$$f(x) = \frac{x^2}{x^2 - 1}.$$

Ex 5. What are the relative minima/maxima of the following function. Write "DNE" if none exist. [Note: Keep in mind the domain of this function.]

$$f(x) = x\sqrt{x+1}$$