Homework 11 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. The rate of vibration of a string under constant tension varies inversely with the length of the string. If a string is 48 inches long and vibrates at 256 times per second, what is the length of a string that vibrates 576 times per second?
2. Suppose the demand D for candy at the movie theater is inversely proportional to the price p.
	1. When the price of candy is $2.75 per bag, the theater sells 156 bags of candy. Express the demand for candy in terms of its price (this means to find k!).
	2. Determine the number of bags of candy that will be sold if the price is raised to $3 a

bag.

1. Find the following values for the given function: f(0), f(-1), f(-x), f(x+1), and f(x+h)
	1. $f\left(x\right)=3x^{2}+ 2x-4$
	2. $f\left(x\right)=\left|x\right|+4$
	3. $f\left(x\right)= 1-\frac{1}{\left(x+2\right)^{2}}$
	4. $f\left(x\right)= \sqrt{x^{2}+ x}$
2. Find the domain of the function.
	1. $f\left(x\right)= -5x+4$
	2. $f\left(x\right)=\frac{x}{x^{2}+1}$
	3. $f\left(x\right)=\frac{x^{2}-1}{x+4}$
	4. $f\left(x\right)= \sqrt{\left(1-x\right)}$