MAC 2311 Hybrid Calculus I (B)

**Review**

1. Find the difference quotient $ \frac{f\left(x+h\right)-f(x)}{h}$ for the function$ f\left(x\right)=\frac{1}{x+1}$.

2. Simplify $g\left(x\right)=\frac{x-|x|}{x-1}$ as a piecewise function.

 3. The function $h\left(x\right)=\frac{x}{x^{3}-x}$ is an even function, odd function or neither.

4. Evaluate *cot* (−7π/3) =

5. Solve $2sin^{2}x-1=0$ for all *x.*

6. If *f* (*x*) = $\sqrt{x}$and *g*(*x*) = 1/ (*x* −1), find *f* $∘$ *g* (x), and give its domain.

7. Simplify $\sin(\left(1\right))$