MAC 2311 Hybrid Calculus I (S)

Name Quiz # 1 (2.1-2.3) Take Home. Show all work.

1. Given$ f\left(x\right)=\sqrt{x}$, simplify $\frac{f\left(x+h\right)-f(x)}{h}$ completely.

Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. If *f* (*x*) = $\sqrt{x}$and *g*(*x*) = *x*2, find:

(*f* $∘$ *g*)(*x*) =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, (*g* $∘$ *f*)(*x*) =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3) Evaluate exact without the use of a Calculator:

(a) Sin (5π/3)= ­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (b) csc (-2π/3) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 4) The manager of a furniture factory finds that it costs $2200 to manufacture 100 chairs and $4800 to manufacture 300 chairs. Find a linear function that models cost C as a function of number of chairs N produced.

Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_