

Math 124H
Autumn 2001
Quiz 1
October 4, 2001

Time: 20 minutes

Each problem is worth 15 points.

1. Find all values of x in the interval $[0, 2\pi]$ that satisfy the equation
 - a. $2 \sin^2 x = 1$
 - b. $\sin x = \tan x$

2. An insect is crawling counterclockwise around the rectangle with vertices $(1,0)$, $(4,0)$, $(4,4)$ and $(1,4)$ at a speed of .5 units/second. At time $t = 0$, it is at the point $(1,0)$. You are at the origin observing this. Find the distance between you and the insect at time $t = 16$ seconds.