

Math 150A, Section 2, Spring 2007  
Homework Assignment 1

**Name:**

Show your work. No work, no credit.

1. Find the domain of the function  $f(x) = \frac{1}{\sqrt{-x^2 + 5x + 14}}$ .

2. Find all values of  $x$  in  $[0, 2\pi]$  such that  $\cos(2x) = \sqrt{2}\cos(x) - 1$ .

3. If  $\cot(\theta) = -2$  and  $\pi < \theta < 2\pi$ , find  $\cos(\theta)$  and  $\sin(2\theta)$ .

4. Use the half-angle formulas to evaluate  $\sin(-\pi/8)$  and  $\cos(-\pi/8)$ .

5. Determine the values of  $\theta$  in  $[0, 2\pi]$  for which the functions

- $f(\theta) = \tan(\theta) + \frac{1}{\tan(\theta)}$

- $g(\theta) = [1 - \cos^4(\theta)]^{-1}$

- $h(\theta) = \sqrt{2 \cos(\theta) - 1}$

are not defined.

Pledged

Honor code: I have neither given nor received help on this assignment.