

**MAE 301/501 HOMEWORK-5 DUE ON THURSDAY, OCTOBER 13.**

One goal for this course is for you to develop your skill in effectively communicating mathematics. With this in mind, you should clearly write up your solutions. Solutions with little or no justification will receive little or no credit.

- (1) For each of the functions below, find the domain and the range, and sketch a graph on **clearly scaled and labeled** coordinate axes.
  - (a)  $\tan(\sin^{-1} x)$
  - (b)  $\cos^{-1}(\sin x)$
  - (c)  $\tan^{-1}(\tan x)$
- (2) Give a clear, concise definition of a radian.
- (3) Do the proofs of trigonometric identities we started in class. This page is already posted to blackboard.