MAE 301/501 HOMEWORK–5 DUE AT THE BEGINNING OF CLASS ON THURSDAY, OCTOBER 31
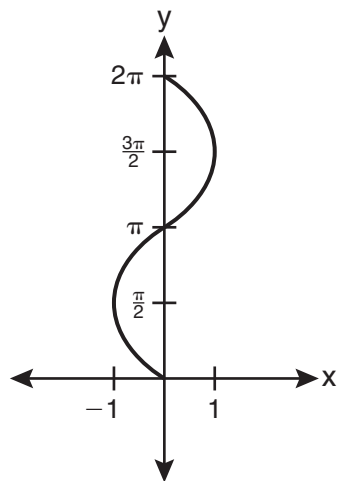
One goal for this course is for you to develop your skill in effectively communicating mathematics. With this in mind, you should clearly write up your solutions. Solutions with little or no justification will receive little or no credit.
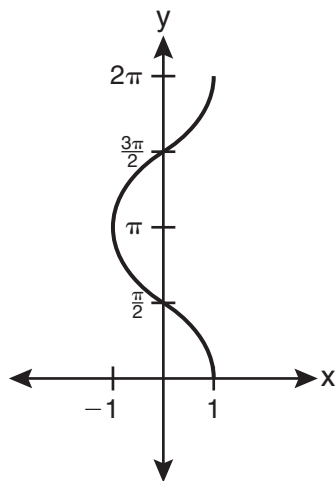
This document has two pages.

(1) https://blogs.ams.org/matheducation/2016/11/28/inverse-functions-were-teaching-it-all-wrong/

   (a) Read the article linked above.

   (b) Write 5-8 paragraphs in which you explain at least two of the authors' arguments as well as your mathematical and pedagogical views of their arguments.

(2) Determine the domain and range of each of the functions below:

   (a) $f(x) = \cos^{-1} x$

   (b) $g(x) = \sin(\cos^{-1} x)$

   (c) $h(x) = \tan(\sin^{-1} x)$

(3) Explain your response to the 2011 Regents exam problem on the second page of this document.
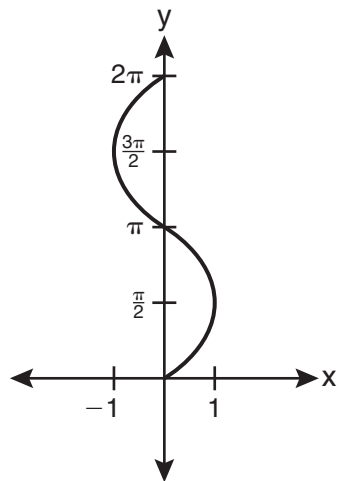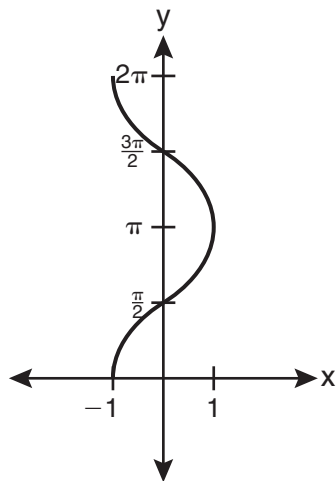
19 Which graph shows $y = \cos^{-1} x$?

(1)

(2)

(3)

(4)