HOMEWORK 2

Due Date 10/11/05

For Recitation 04 : MAT 123

Problem 1  Find the angular speed (in radians per second) of a fan, if it makes 180 revolutions per minute.

Problem 2  Plot, in a scaled set of axes, the graph of :

\[ y = -2 \sin(4x + \pi) + 3. \]

Problem 3  Plot two periods of the graph given by :

\[ y = -2 \tan(x + \frac{\pi}{4}) + 2 \]

Problem 4  For 0 \leq x \leq 1, prove that

\[ \sin^{-1} x + \cos^{-1} x = \pi/2. \]

Problem 5  Prove or disprove (provide arguments) :

\[ \sin^{-1}(\sin(9\frac{\pi}{4})) = 9\frac{\pi}{4}. \]