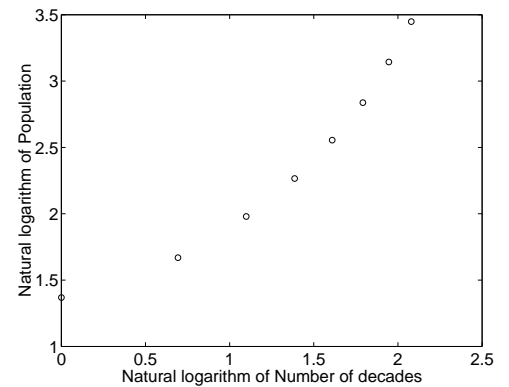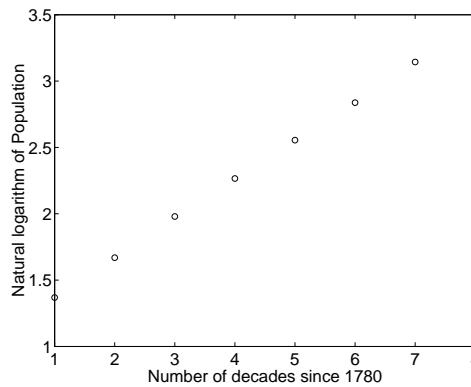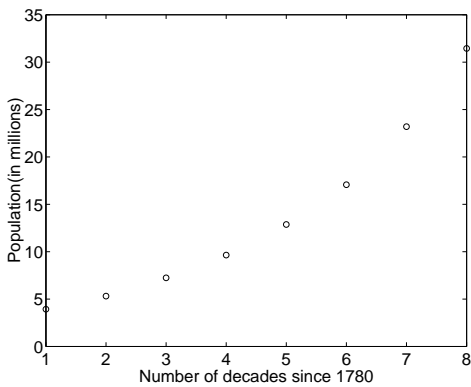**Calculus I**
Ver 1

Name:_____

Student ID:_____

Quiz 2
Oct. 11, 2006

1. (6 pts) $\cos^{-1}(\cos -\frac{\pi}{3})=$_____

2. (6 pts) The population of the United States from 1790 to 1860 was shown in the table below.

Year	1790	1800	1810	1820	1830	1840	1850	1860
Population	3,929,214	5,308,483	7,239,881	9,638,453	12,866,020	17,069,453	23,191,876	31,443,321

Determine if the population of the United States from 1790 to 1860 was increasing exponentially or as a polynomial.

Hint: Assuming the population was increasing exponentially, $y = ae^{bx}$, or as a polynomial, $y = bx^n$, then, take natural logarithm of both sides.

Ans=_____.

Why?

3. (8 pts) Find the compositions $f \circ g$ and $g \circ f$ and identify their respective domains.
$f(x) = x - 2$, $g(x) = \sqrt{x-1}$
Note: You don't have to simplify the answer.

$f(g(x))=$_____; Domain=_____

$g(f(x))=$_____; Domain=_____