

*Exam 1 Review Problems, 2*

1. Find each of the following values, simplifying as much as possible.

(a)  $\sin\left(\frac{3\pi}{4}\right)$

(b)  $\cos(2\pi)$

(c)  $\tan\left(-\frac{\pi}{3}\right)$

(d)  $\sec\left(-\frac{\pi}{2}\right)$

(e)  $\tan^{-1}(1)$

(f)  $\cos^{-1}(1)$

(g)  $\sin^{-1}\left(\frac{\sqrt{2}}{2}\right)$

(h)  $\ln(e^\pi)$

(i)  $2^{\log_4(16)}$

(j)  $\log_6(2) + \log_6(18)$

2. Find the inverse of the function  $f(x) = 2^{x^2+1}$ . What is the domain and range of the function  $f$ ? Of the inverse  $f^{-1}$ ?