

# Homework 1

1. Find the real numbers satisfying the equations:

a)  $x^3 + 4x^2 + 5x + 2 = 0$ ,

b)  $x^4 - 2x^2 + 1 = 0$ ,

c)  $x^3 + 3x^2 + x + 3 = 0$ ,

d)  $\sin^2 x = 1$ .

2. Compute

a)  $\sin \frac{2\pi}{3}$ ,

b)  $\tan \frac{5\pi}{4}$ ,

c)  $\cos \frac{11\pi}{6}$ .

3. Find the domains of the functions

a)  $f(x) = \frac{x+3}{x^2+1}$ ,

b)  $g(x) = \frac{x}{x^2-7x+6}$ ,

c)  $h(x) = \frac{\sin x + 1}{\cos x - 1}$ .