

## HW 1

Section 1.1: 8, 10, 20 c) d), 24

Section 1.2: 6, 16.

- Describe the set of points  $z$  in  $\mathbb{C}$  that satisfies each of the following

a)  $|z+5i| < |4+3i|$

b)  $|z+1| = (\operatorname{Im} z) + 1.$

Section 1.3: 10, 12, 7 (d), (g).

- Show: If  $z$  is not a real number, then  $\operatorname{Arg} \bar{z} = -\operatorname{Arg} z.$

Does the equality still hold if

- $z$  is a positive real number
- $z$  is a negative real number