.

Assignment 7 - Complex logarithms and exponents
Due March 28th

1. Compute the following:

   a) (0.5 pts) $\log(-1)$

   b) (1 pt) $(-1)^{x+iy}$ where $x, y \in \mathbb{R}$

   a) (0.5 pts) $\log(i)$

   b) (1 pt) i^{x+iy} where $x, y \in \mathbb{R}$

2. Show that the following identities remain true for z, a, $b \in \mathbb{C}, z \neq 0$:

   a) (1 pt) $z^{a+b} = z^a z^b$

   b) (1 pt) $z^{a-b} = \frac{z^a}{z^b}$