

Name: \_\_\_\_\_

**MATH 19 QUIZ**  
**06 OCTOBER 2016**  
**BROWN UNIVERSITY**  
**INSTRUCTOR: SAMUEL S. WATSON**

1. Find all solutions of the equation  $z^3 = 8$ . Express your answers in the form  $a + bi$  where  $a$  and  $b$  are real numbers.

2. Show that if  $z$  is outside the unit circle, then  $z^{11}$  is also outside the unit circle.