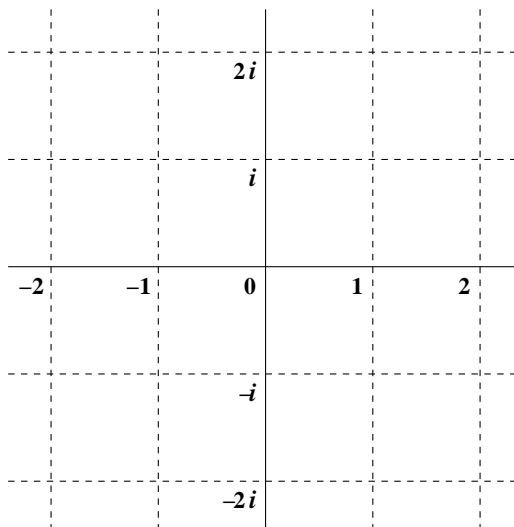


**Two students must work on this together!!!**

Name \_\_\_\_\_ Name \_\_\_\_\_

1. Suppose  $A$  is the collection of complex numbers,  $z$ , which satisfy  $1 < |\operatorname{Re} z| < 2$ . Sketch  $A$  as well as possible on the axes to the right. Answer these questions and briefly explain your answers.

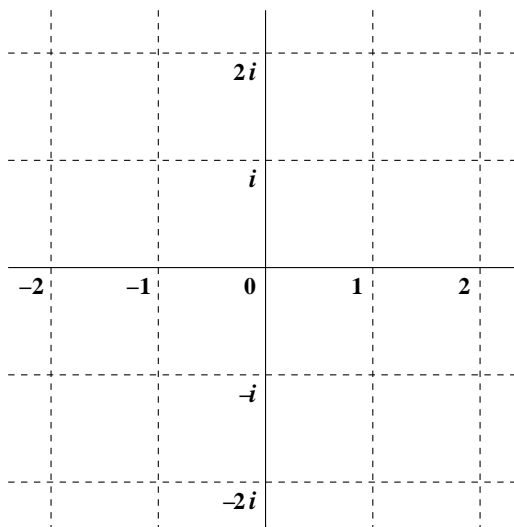


a) Is  $A$  open? Give some explanation.

b) Is  $A$  connected? Give some explanation.

c) What is the boundary of  $A$ ? Give some explanation.

2. Suppose  $B$  is the collection of complex numbers,  $z$ , which satisfy  $0 < |z| < 1$ . Sketch  $B$  as well as possible on the axes to the right. Answer these questions and briefly explain your answers.



a) Is  $B$  open? Give some explanation.

b) Is  $B$  connected? Give some explanation.

c) What is the boundary of  $B$ ? Give some explanation.