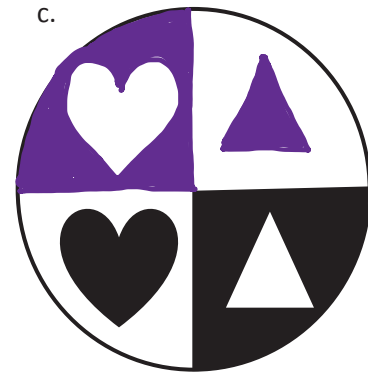
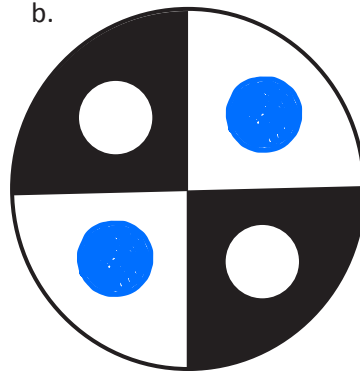
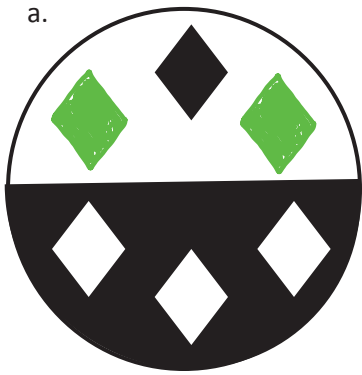


Name \_\_\_\_\_

Date \_\_\_\_\_

1. Estimate to finish shading the circles below so that each circle is about one-half shaded.



2. Choose one of the circles in Problem 1, and explain how you know it's about one-half shaded.

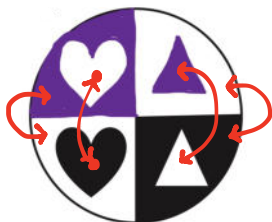
*Answers will vary.*

Circle B

*Half of the circle was shaded except for the two little circles, so I knew I needed to draw two little circles in the unshaded part.*

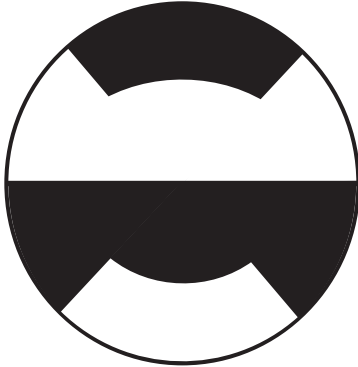
3. Can you say the circles in Problem 1 are exactly one-half shaded? Why or why not?

*Yes, they are each exactly one-half shaded. I know because I made sure each shaded portion had an unshaded "twin".*

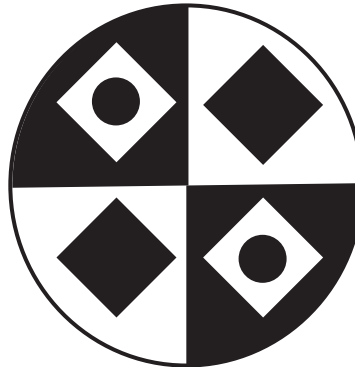


4. Marissa and Jake shade in circles as shown below.

Marissa's Circle



Jake's Circle

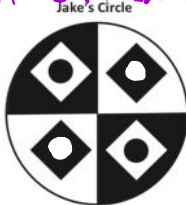


- a. Whose circle is about one-half shaded? How do you know?

Marissa's circle is about one-half shaded because each shaded portion has a matching unshaded "twin".

- b. Explain how the circle that is not one-half shaded can be changed so that it is one-half shaded.

Jake's circle can be one-half shaded if we put a white circle in each of the black squares.



5. Estimate to shade about one-half of each circle below in an unusual way.

