

## MATH 110 Mathematical Patterns Activity II

### Asymmetric design

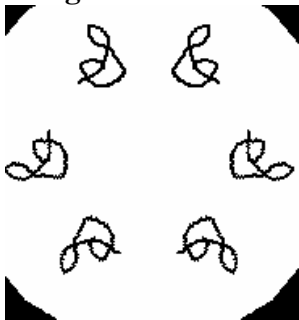


### Design 5

Describe how these patterns are formed:



### Design 6



How are Designs 5 and 6 similar? How are they different?

How would these designs change if we change the angle of rotation?

Try it.

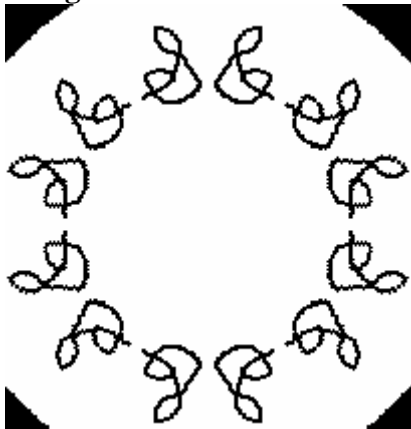
Create your own asymmetric unit and use the same operations that formed Designs 5 and 6.

Design 7



Describe how these designs are formed:

Design 8



How are Designs 7 and 8 similar? How are they different?

Create your own asymmetric unit and use the same operations that formed Designs 7 and 8.

Match the following Japanese Family Crests to Designs 5 through 8:

