

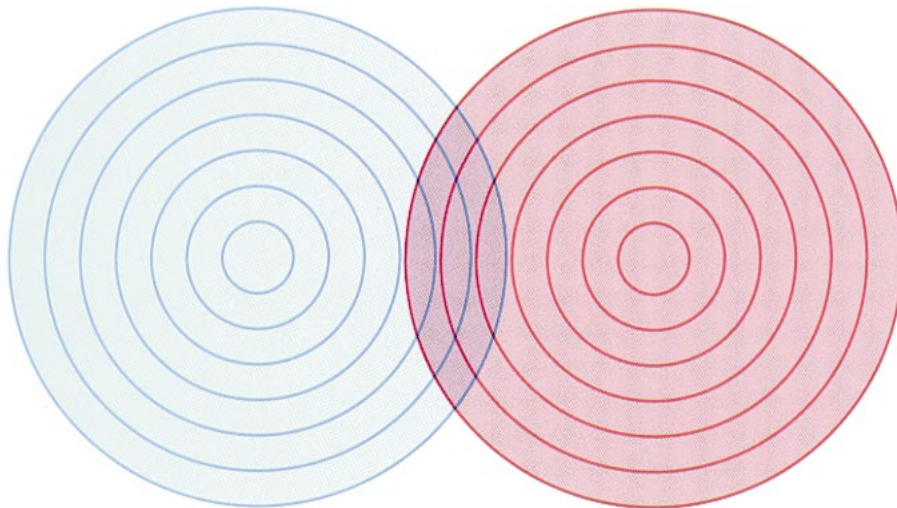
The Intersecting Circles

Problem-of-the-Week

The Problem

Two sets of concentric circles have been started below. The centers of the circles are 11 units apart. The radius starts at 1 unit and increases by 1 with each larger circle.

Copy and continue the pattern. What two families of curves are formed by the intersections of the circles? Sketch the first two members of each family.



Strategies and Hints

1. As you continue adding concentric circles, the design will include more and more diamond-shaped figures like the one at the right. To make the families of curves you will connect the vertices of the diamonds.
2. Look first at the left and right vertices of the diamonds. What curves are formed through these points?
3. It may help you to shade the diamonds in an alternating pattern of black and white. Shade the two-vertex shapes in the middle black. Then look at just the white diamonds.

