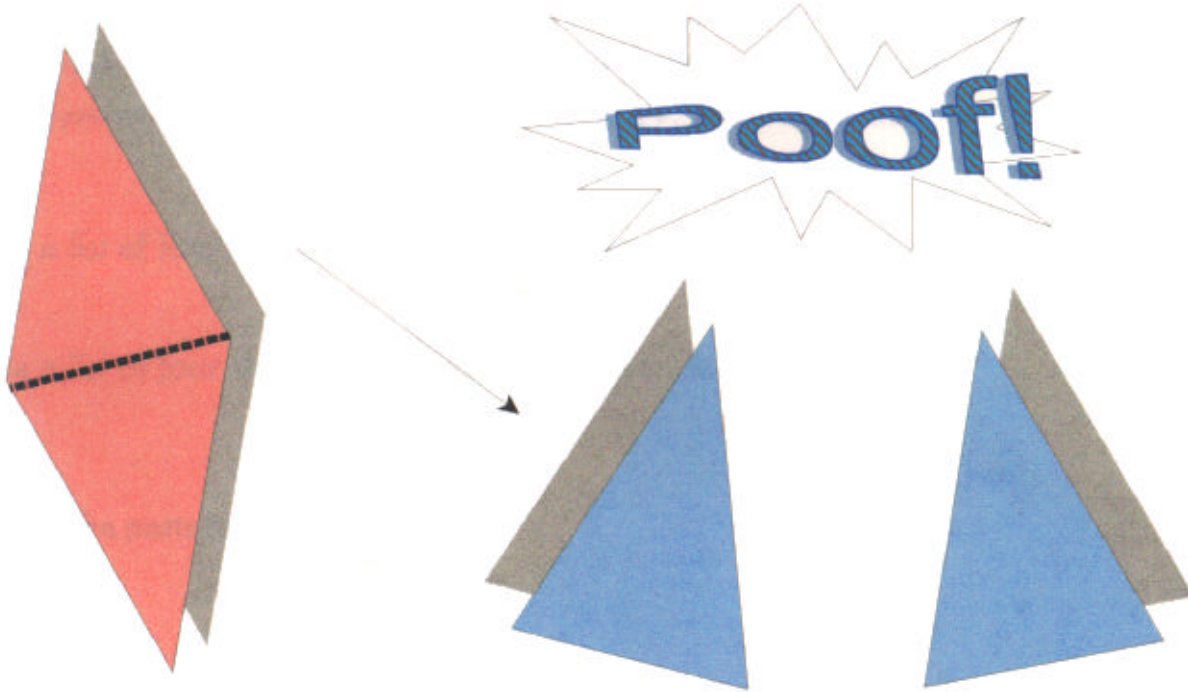


The Shape Equalizer

By MATTHEW BRADY

The ShapeEqualizer is a distant cousin of our friends the ShapeShifter, the ShapeSplitter, and the evil ShapeShredder. The ShapeEqualizer is into equality. He likes things to be equal. His special knowledge allows him to cut shapes with lines of symmetry into two shapes of equal area and perimeter. Some shapes will give him many different ways to make two equal shapes, but he will only make one pair.



Suppose, the Greedy Triangle's friend, Michael McSquare went to see the ShapeEqualizer because he was lonely. He wanted the ShapeEqualizer to give an equal that he could spend his days with.

1. How many possible ways could the ShapeEqualizer give Michael McSquare an new shape and an equal?
2. What shapes could the ShapeEqualizer make Michael McSquare into so that there are two new equal shapes?

The Greedy Triangle heard of this and he thought that an equal might be a nice idea. So he went to the ShapeEqualizer's upscale condo (the ShapeEqualizer was very wealthy because of his very expensive shape- reassignment procedure). He told the ShapeEqualizer he wanted an equal. The ShapeEqualizer told the greedy triangle that he could not help him. The Greedy Triangle went away puzzled at this.

3. Why might the ShapeEqualizer not be able to help the Greedy Triangle?
4. What kind of triangle would the Greedy Triangle have to be so that the ShapeEqualizer could help him?

The ShapeEqualizer had a buddy named Bob. Bob and the ShapeEqualizer went to medical school together. However, Bob really liked to party and sleep late, so he did not do as well as the ShapeEqualizer. Bob received his certification to equalize shapes, but he is only certified to do it along lines of symmetry that are diagonals. Consequently, Bob drives a Honda and ShapeEqualizer drives a Lexus.

5. Make a list of four shapes that Bob can perform his equalizing on.
6. Make a list of four shapes that Bob will not even see as patients.
7. What is the pattern you notice here?
8. What might be another reason that Bob's practice is considerably less than that of ShapeEqualizer's? Think about how many times Michael McSquare and his new equal could return to both ShapeEqualizer and Bob given the possibilities of equalization.