

The GREEDY Triangle

Name: _____

Group members: _____

To set the stage for these wonderings, please read The Greedy Triangle, a Brainy Day Book by Marilyn Burns.

1. "I think if I had just one more side and one more angle," said the greedy triangle to the shapeshifter, "my life would be more interesting."

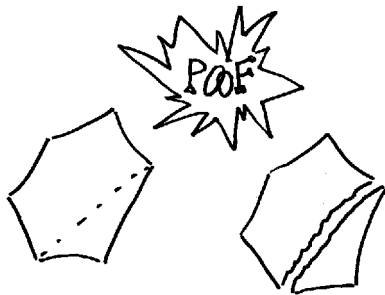
How many more degrees does the greedy triangle have after each visit to the shape shifter?

2. When the greedy "triangle" became dissatisfied with being a nonagon, what did it become after the shapeshifter's next "poof"?

The ShapeSplitter

The shapessplitter, a cousin of the shapeshifter, can poof a shape into two pieces, but only by breaking along a diagonal to split off a triangle.

One day, when the greedy triangle was actually a hexagon, the shapessplitter poofed it into a pentagon and a triangle.



"I get a new little triangle brother or sister," it said after visiting the shapessplitter, "which I can show to my friends."

When a triangle comes to the shapessplitter, it can do nothing since triangles have no diagonals. It sends the triangle on to the shapeshifter.

3. How many times could a heptagon visit the shapessplitter before it would be sent on to the shapeshifter?

4. An octagon visited the shapessplitter. A while later his little triangle brother was sad because his big brother said "Quit bothering me and go grow up." How many times does the little brother need to visit the shapessplitter to get as big as his big brother?

5. A shape which had 720° wanted bunches of brothers and sisters. How many times could he visit the the shape splitter? What will the total number of siblings be?

6. A certain figure was able to visit the shape-splitter 8 times before it was sent on to the shapeshifter. What kind of figure was it?

The ShapeShredder

The shapeshredder was most terrifying of all! One shattering poof and any shape is shredded into triangles (always along diagonals).

"I am scared of the shapeshredder," said the greedy triangle, "Brothers and sisters are fun to show to my friends. But I like being bigger than they are."

7. If a pentagon visits the shape shredder, how many little brothers and sisters will there be (including what is left of the pentagon)?