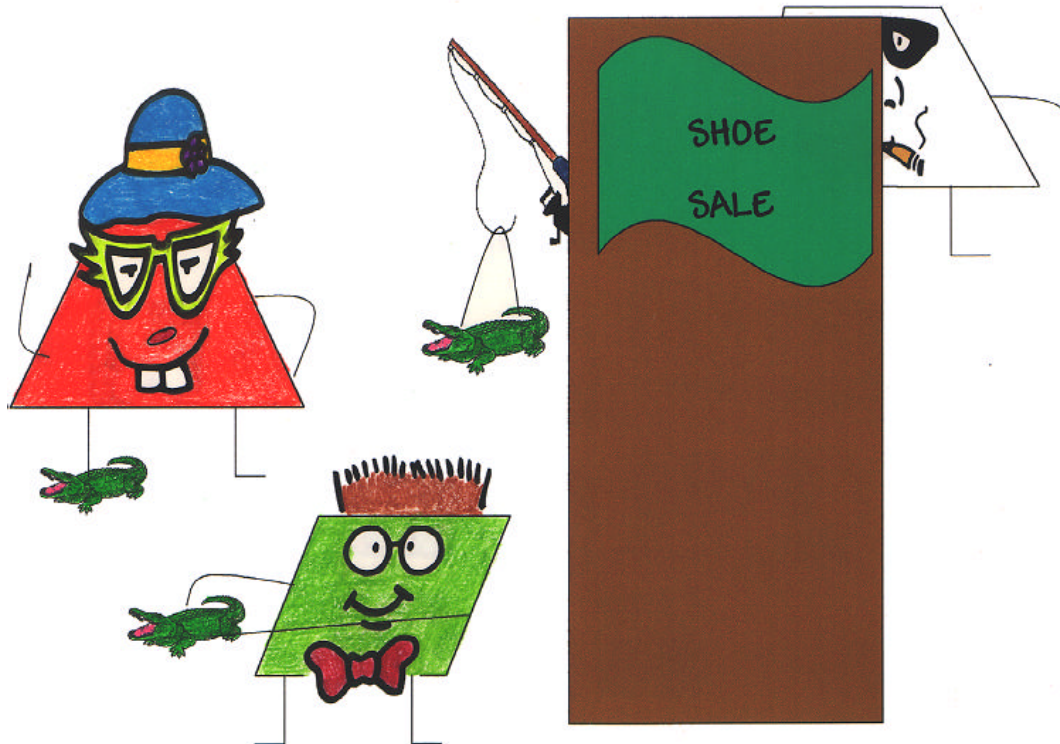


THE  
NAUGHTY  
POLYGON  
BY  
KELLY ORTA

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This story was written as a student project for a mathematics class (MATH 3403: Geometric Structures) intended for prospective elementary teachers. These materials have been developed as part of a project supported by the National Science Foundation to explore possibilities for the integration of mathematics and reading.

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One day Mrs. Triangle was shopping for a new pair of alligator shoes to match her new alligator purse. When she wasn't looking another shape snuck up behind her and stole her new purse.

"Help! Help!" shouted Mrs. Triangle, "I've been purse-napped."

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The young rhombus salesman offered to help. "I'll just run to the corner and get a police officer," said the helpful young rhombus. The rhombus dashed out of the store and returned quickly with a policeman.

"Officer Circle, this is Mrs. Triangle, the lady I was telling you about," the young rhombus said.

"Ma'am, we'll need to go down to the station so that you can file a report and possibly pick a shape out of a line-up," the police officer informed Mrs. Triangle.

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"Can you give me a description of the suspect?" asked the officer.

Mrs. Triangle thought very hard and then answered, "Well.....he looked like a polygon."

"Lady, you're givin' me nothin' to work with here, you've got to be more specific, there's a lot of polygons running around out there," the angered officer said.

"Well.....he had four sides and four angles. Yes! I'm sure of it! He had four sides and four angles," Mrs. Triangle said excitedly.

"So what you're telling me is that this perp is a quadrilateral." The officer scratched his head. "That's a good start, but I'll need a little more to go on, ma'am. What else can you tell me?"

"I'm pretty sure he didn't have equal sides," said Mrs. Triangle.

"Now we're gettin' somewhere," said the officer as he scribbled notes on his pad.

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"With that information we can rule out all the squares and rhombi," said the officer. "Do you remember anything else?"

Mrs. Triangle looked puzzled, "What do mean, officer?"

"Like did this prep have any distinguishing features, you know, like what were his angles like?" asked the officer.

"I could tell his angles were not right, not right at all," stated Mrs. Triangle.

"How do mean "not right"? Like as in crazy looking "not right" or as in his angles were not 90 degree angles?" questioned the officer.

"Like as in his angles were not 90° angles!" Mrs. Triangle exclaimed.



"Well then we can also rule out the rectangles," deduced the officer, "but I'll need even more to go on, lady." The officer thought for a few minutes. "Lady, you gotta help me out here, I'm drawing a blank."

"There was something.....," Mrs. Triangle said hesitantly.

"Anything, lady, anything will help, sometimes the smallest detail makes all the difference when you are trying to identify quadrilaterals," the officer pleaded.

"It was something about that fellow's symmetry. Let me think. I know! He had no lines of symmetry!" exclaimed Mrs. Triangle.

"Now we're gettin' somewhere, lady. This means we can rule out the kites and the isosceles trapezoids too. I know this is hard, lady, but I have a few more questions," warned the officer.

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"I think I've got it narrowed down, but I need to know one more thing. Did this shape have any parallel sides?" the officer inquired.

"I remember he only had one pair of parallel sides, now that you mention it," confessed the triangle.

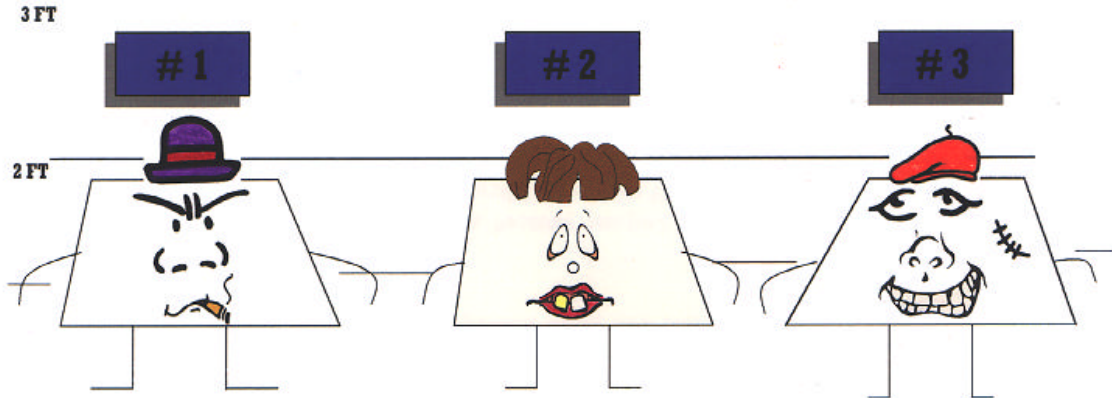
"I do believe we have narrowed it down, because you just ruled out the parallelogram. Those guys always have two pairs of parallel sides, you know. I think I can bring in some suspects for a line-up. With your help, I have ruled out all the shapes except for the trapezoids," the officer stated.

While Mrs. Triangle waited, the officer rounded up all of the usual trapezoidal suspects for a line-up.

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## GEOTOWN POLICE DEPARTMENT



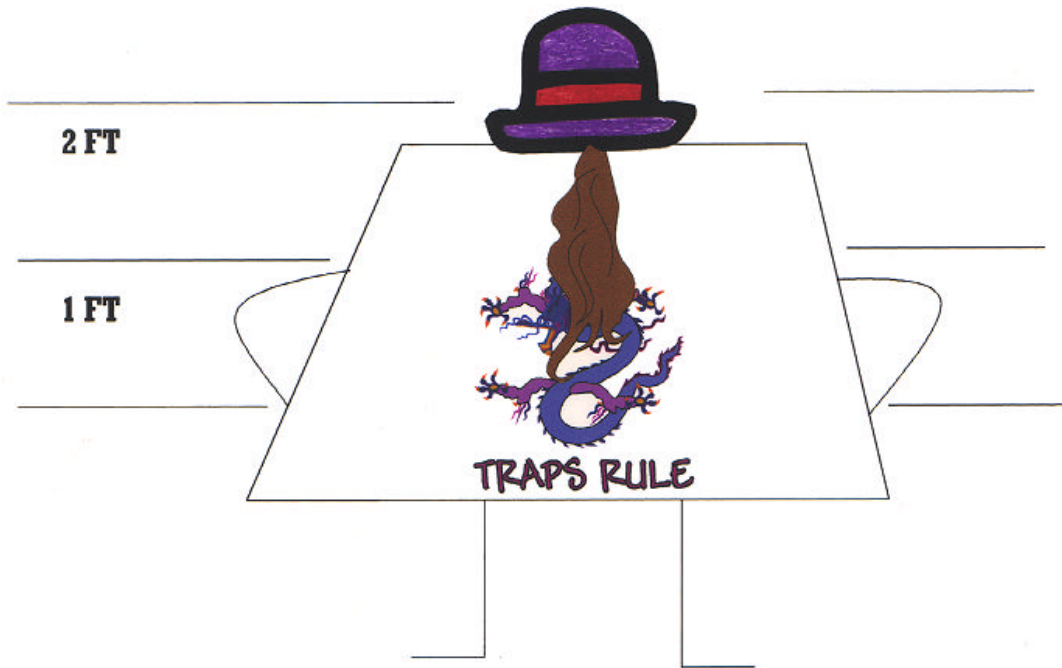
"Mrs. Triangle do you recognize the trapezoid who stole your purse?" asked the officer.

"Yes! It was number 1. He stole my purse!" exclaimed Mrs. Triangle.

"For the record ma'am, could you tell us how you know it is suspect number 1?" requested the officer.

Mrs. Triangle explained, "I remember the shape that stole my purse was a quadrilateral with no equal sides and no 90 degree angles. He didn't have any lines of symmetry and one pair of his sides were parallel. Suspect number 1 fits that description. But most of all I remember that the shape who stole my purse had a large tattoo on his back."





"Number One, please turn around," the officer instructed. After the trapezoid slowly turned around the police officer said, "Case closed."

THE END

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