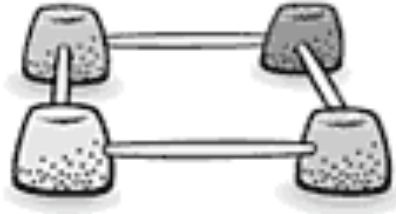


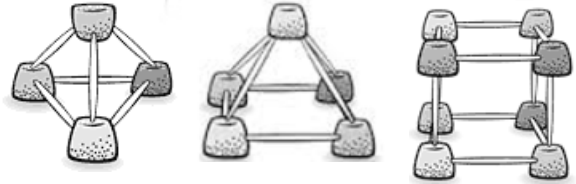
Mathletes Problem of the Week #4

Goody Goody Gumdrops



On the last day of school, Jamal's class is building shapes with gumdrops and toothpicks. Jamal wants to make his shapes so that no toothpick has the same colored gumdrop at both ends. This means that any two corners that are connected must have different colored gumdrops.

- a) What is the fewest number of gumdrop colors that Jamal can use to make a triangle? a square? a pentagon? a hexagon?
- b) As Jamal continues to add more sides, how many more colors will he need each time? Is there a pattern?
- c) Jamal decides he wants to make some 3-D shapes. He builds a triangular pyramid, a square pyramid, and a cube using the same rule as before. Which shape needed the fewest colors? Which one needed the most? Why?



Solutions & Explanations: (Solve one or solve them all. Attach more paper if you need to!)

Name _____ Class _____

(First and last name, please!)

Solutions due: June 15th