## Math 2 Group Exam 2015

This group portion centers around the tetrahemihexahedron, the only non-prismatic uniform polyhedron with an odd number of faces.

1. Cut out the nets for and construct 3 tetrahemihexahedra

Edges:

- 2. Color 1 of them to show that its faces are 4 triangles and 3 squares
- 3. Using toothpicks and marshmallows, create another solid with the same vertex figure 2 squares and 2 triangles.
  - How many ...

Faces:

Vertices:

4. Draw the net for your new shape:

- Using toothpicks and marshmallows, make another shape with the same number of edges and vertices as the tetrahemihexahedron. Which platonic solid is it?
- 6. Make another shape with the same number of faces and edges [use Euler's Characteristic V E + F = 2 to figure out the number of vertices]. Sketch it below:
- 7. Make another shape with the same number of faces and vertices [use Euler's Characteristic to figure out the number of edges]. Sketch it below:
- 8. Find the volume of the original folded tetrahemihexahedra.