

Take Home Question (24 points)

Cut out the attached figure. Make the shape into a solid.

1. Name the solid using the correct name learned in the volume chapter.

2. How many faces, edges, and vertices does this solid have?

Faces _____ Edges _____ Vertices _____

3. Write a formula that can be used to solve for the number of vertices (v) if you know the number of edges (e) and faces (f) on the solid.

4. Draw a sketch of the solid in the space below.

5. To begin finding the volume measure those quantities, in centimeters, which you need to find the volume of the solid. Label these measurements on the sketch in question 4.

6. Find the volume of the solid. Show the work that leads to your answer.

7. If you were to create a solid similar to the one you constructed from the net that had dimensions that were twice those of the given solid, sketch this new solid and indicate the new measurements on this sketch.

8. Explain what the ratio of the volume of the original solid to the new solid should be. Then find the volume of this new solid and show this ratio does exist.

