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Module 10 Coordinate Geometry and Spatial Visualization
Lesson 4 Three-Dimensional Shapes

## Challenge Problems



## Set 1

1) Euler's Theorem, $(F+V=E+2)$, states that for any polyhedron, the number of faces $F$ plus the number of vertices $V$ equals the number of edges $E$ plus two. Verify that the formula is valid for each Platonic solid.

2) A polyhedron has 14 faces: six octagons and eight triangles. How many vertices does it have?


## Set 2

(1) Compare prisms and cylinders. How are they alike? How are they different?
(2) Compare cones and pyramids. How are they alike? How are they different?

## Additional Work Area

