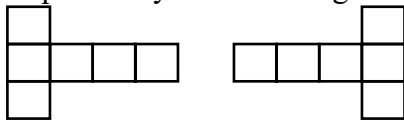


1. Name three things you see every day that are prisms.

2. Explain how the terms face, base, edge, and vertex can be used to describe a three-dimensional figure.

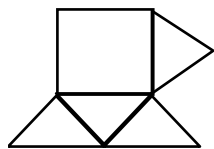
3. Find a 3-dimensional geometric figure in your environment and draw a net for it.

4. Explain why the following two nets are actually the same.



5. Describe the net of a cylinder with a radius of 6 in. and a height of 12 in.

6. Use Euler's Formula to argue that the following net cannot be the net of a polyhedron.



7. Complete each analogy:
- square:cube::circle: ?
  - polygonal base:circular base::pyramid: ?
  - cylinder:prism::cone: ?
  - area:volume::  $\text{cm}^2$  : ?

8. Draw the prism described in the table below.

Figure	Vertices	Edges	Faces	Bases
Prism	8	12	6	2
Pyramid	5	8	5	1

- What kind of prism did you draw?
- Describe the shapes of the faces of the figure.
- Describe the relationships among the edges.

[1] Answers may vary: cereal box, pitched roof on a house, book, suitcase, and so on.

Answers will vary. Sample: A face is a flat polygonal surface, a base is a face that can be the bottom of the figure, an edge is a segment where two faces intersect, and a vertex is a point where two edges meet. Three-dimensional figures can be described by the number and shape of the faces and bases as well as

[2] the number of edges and vertices.

[3] Check students' work.

[4] When the first net is flipped, you get the second net.

It is a rectangle with dimensions 12 in. by  $12\pi$  in. with a circle of radius 6 in. attached to each of the

[5] two longer sides.

[6] There are 5 faces, 8 vertices, and 12 edges.  $5 + 8 - 12 \neq 2$ .

a. sphere

b. cone

c. pyramid

[7] d.  $\text{cm}^3$

a. The figure is a trapezoidal prism.

b. The faces are rectangles and the bases are trapezoids.

c. Descriptions of the relationships among the edges will vary. Students should note which edges

[8] intersect and which edges are parallel.