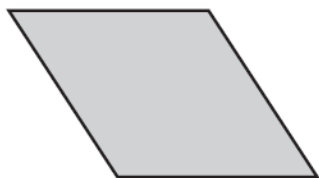
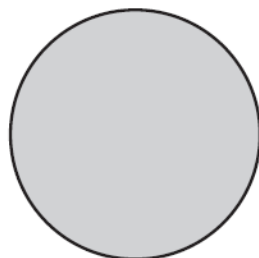


Determine if the figure is a polygon. If not, explain why.

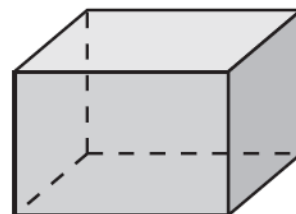
1. rhombus



2. circle



3. rectangular solid



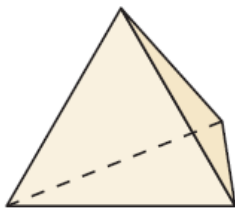
**Find the distance between the two points.**

1.  $(-3, 1), (5, 1)$       2.  $(7, -8), (9, -3)$       3.  $\left(\frac{1}{2}, \frac{2}{3}\right), \left(\frac{5}{2}, -\frac{3}{2}\right)$

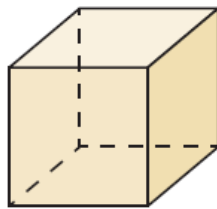
## Essential Question

What is the relationship between the numbers of vertices  $V$ , edges  $E$ , and faces  $F$  of a polyhedron?

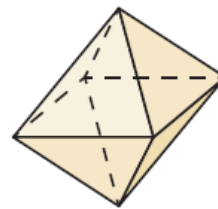
**Work with a partner.** The five *Platonic solids* are shown below. Each of these solids has congruent regular polygons as faces. Complete the table by listing the numbers of vertices, edges, and faces of each Platonic solid.



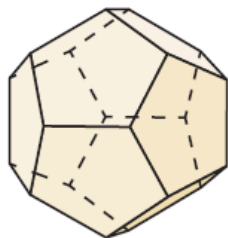
tetrahedron



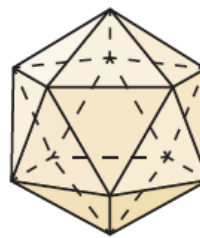
cube



octahedron



dodecahedron



icosahedron

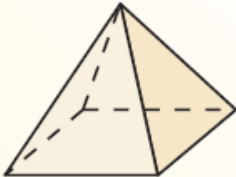
Solid	Vertices, $V$	Edges, $E$	Faces, $F$
tetrahedron			
cube			
octahedron			
dodecahedron			
icosahedron			

**Types of Solids**

**Polyhedra**

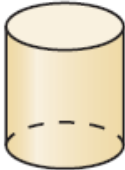


prism



pyramid

**Not Polyhedra**



cylinder

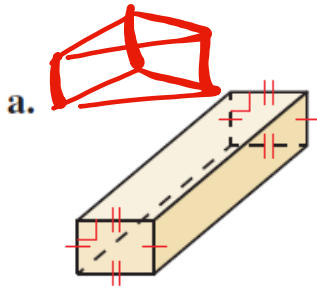


cone

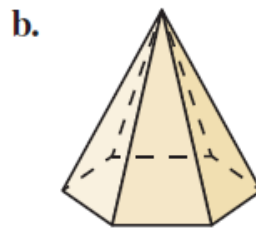


sphere

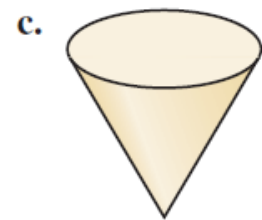
Tell whether each solid is a polyhedron. If it is, name the polyhedron.



Polyhedra  
Prism



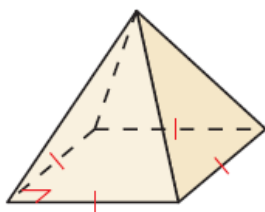
Pyramid



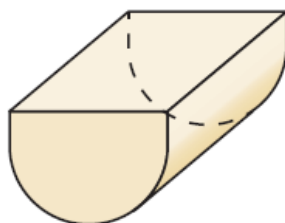
Not polyhedra

Tell whether the solid is a polyhedron. If it is, name the polyhedron.

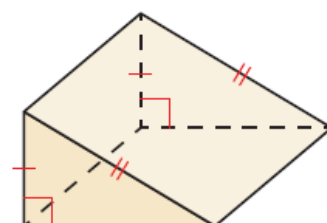
1.



2.

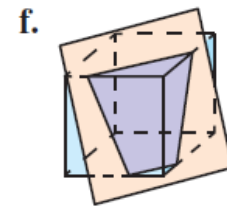
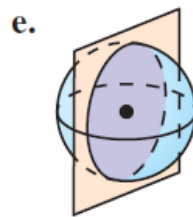
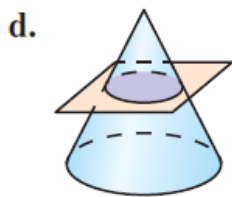
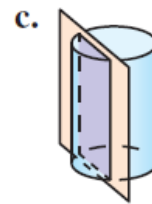
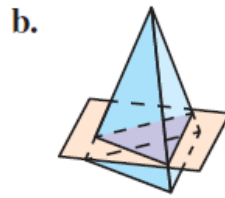
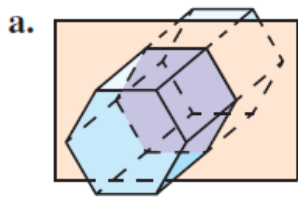


3.



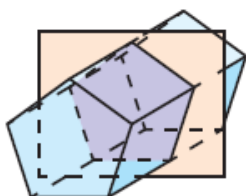


Describe the shape formed by the intersection of the plane and the solid.

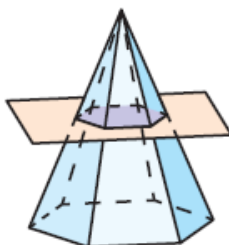


**Describe the shape formed by the intersection of the plane and the solid.**

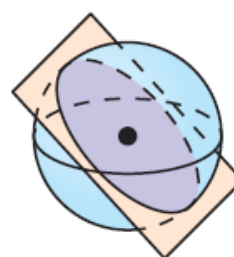
4.



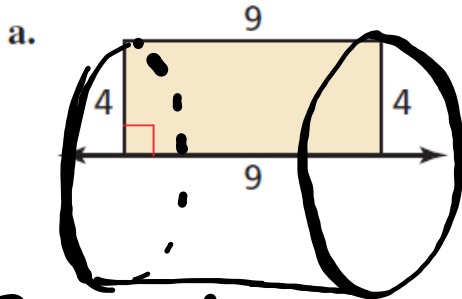
5.



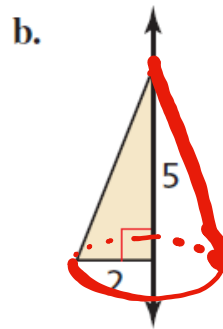
6.



Sketch the solid produced by rotating the figure around the given axis.  
Then identify and describe the solid.

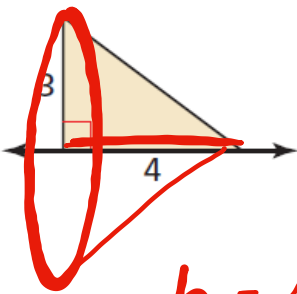


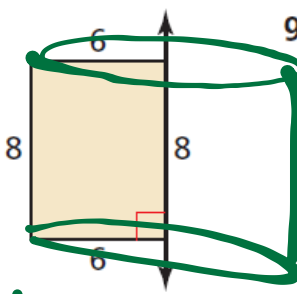
Cylinder  
 $r = 4$   $h = 9$

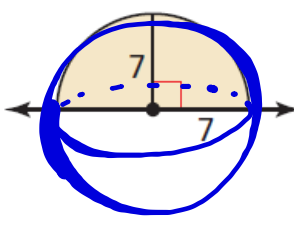


Cone  
 $h = 5$   
 $r = 2$

Sketch the solid produced by rotating the figure around the given axis. Then identify and describe the solid.

7.    
 Cone  $h = 4$   
 $r = 3$

8.    
 $h = 8$   
 $r = 6$

9.    
 $r = 7$

- **Exit Ticket:** Sketch and name the different cross sections of a cube.