9.5 EXTENSION

CROSS-SECTIONS OF 3D FIGURES

Do Now

1. **How is the formula for the volume of a pyramid different from the formula for the volume of a prism.**

2. **Triangular pyramid and a triangular prism have the same base and height. The volume of the prism is how many times the volume of the pyramid?**

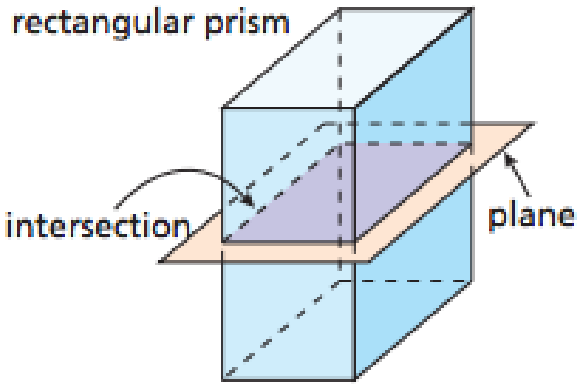
3. **Describe a real-life situation that involves finding the volume of a pyramid.**

KEY IDEAS

Consider a plane (flat surface) "slicing through" a solid.

The intersection of the plane and the solid is a two-dimensional shape called a _____. _____.

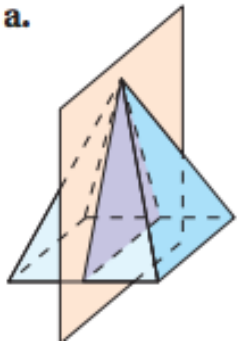
The diagram shows that the intersection of the plane and the rectangular prism is a _____.



Describing the Intersection of a Plane and a Solid

Describe the intersection of the plane and the solid.

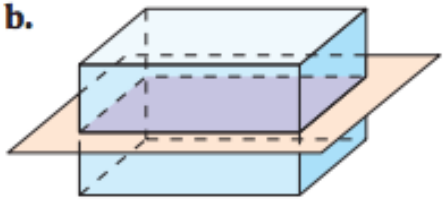
a.



The intersection is a

_____

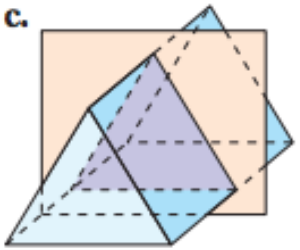
b.



The intersection is a

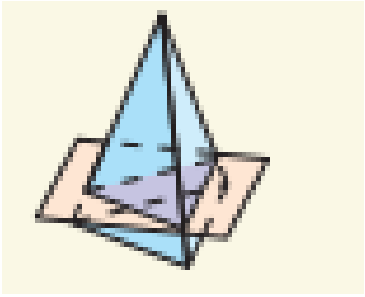
_____

c.



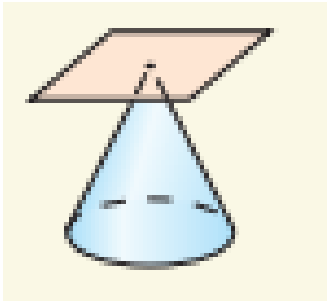
The intersection is a

_____



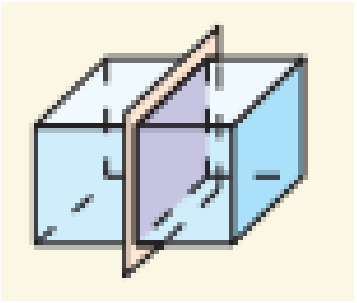
The intersection is a

_____



The intersection is a

_____

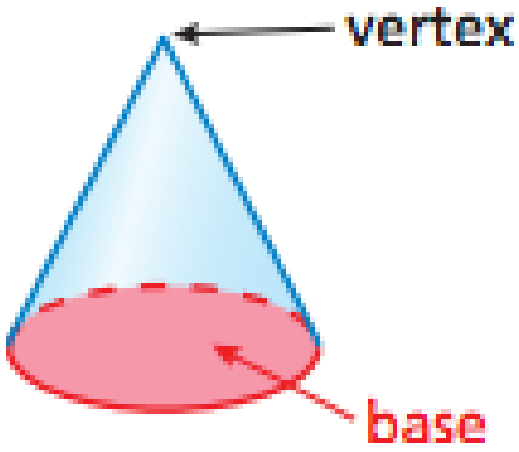


The intersection is a

_____

KEY IDEAS

Now consider the intersection of a plane and a solid having a curved surface, such as a cylinder or cone.

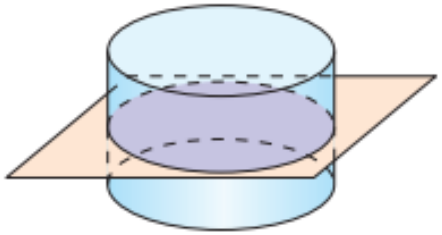


As shown, a cone is a solid that has one _____ base and one _____.

Describing the Intersection of a Plane and a Solid

Describe the intersection of the plane and the solid.

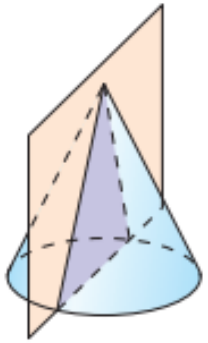
a.



The intersection is a

_____

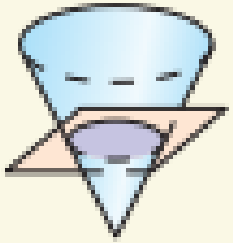
b.



The intersection is a

_____

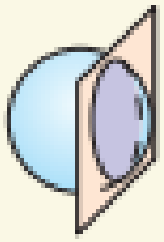
a.



The intersection is a

_____

b.



The intersection is a

_____