Prism/cylinder
parallel: base
perpendicular: rectangle

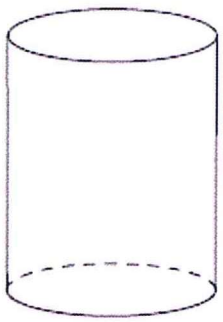
pyramid/cone
parallel: base
perpendicular: triangle

Name Schlansky Date _____
Mr. Schlansky Geometry

Cross Sections

1. A plane intersects a cylinder perpendicular to its bases.

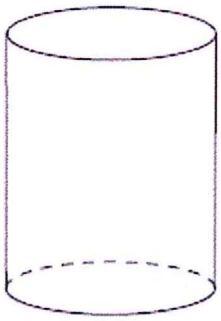
Vertical



This cross section can be described as a
1) rectangle
2) parabola
3) triangle
4) circle

2. A plane intersects a cylinder parallel to its bases.

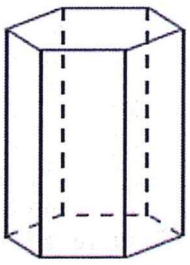
horizontal



This cross section can be described as a
1) rectangle
2) parabola
3) triangle
4) circle

3. A right hexagonal prism is shown below. A two-dimensional cross section that is perpendicular to the base is taken from the prism.

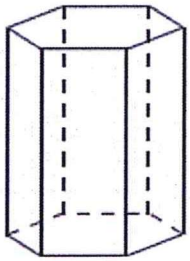
vertical



Which figure describes the two-dimensional cross section?
1) triangle
2) rectangle
3) pentagon
4) hexagon

4. A right hexagonal prism is shown below. A two-dimensional cross section that is parallel to the base is taken from the prism.

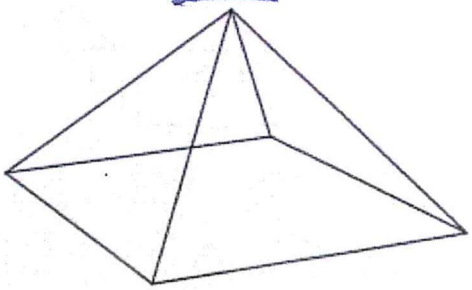
horizontal



Which figure describes the two-dimensional cross section?
1) triangle
2) rectangle
3) pentagon
4) hexagon

horizontal

5. A square pyramid is intersected by a plane passing through the vertex and parallel to the base.

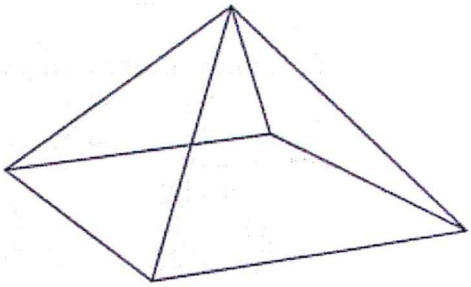


Which two-dimensional shape describes this cross section?

1) square
2) triangle
3) pentagon
4) rectangle

6. A square pyramid is intersected by a plane passing through the vertex and perpendicular to the base.

vertical

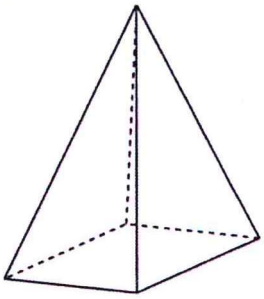


Which two-dimensional shape describes this cross section?

1) square
2) triangle
3) pentagon
4) rectangle

horizontal

7. In the diagram below, a plane intersects a square pyramid parallel to its base.

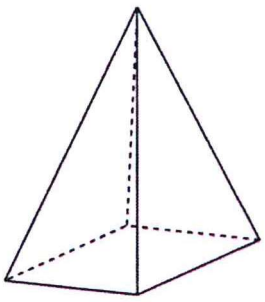


Which two-dimensional shape describes this cross section?

1) circle
2) square
3) triangle
4) pentagon

vertical

8. In the diagram below, a plane intersects a square pyramid perpendicular to its base.

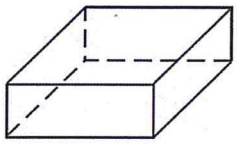


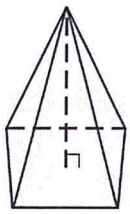
Which two-dimensional shape describes this cross section?

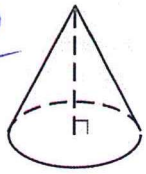
1) circle
2) square
3) triangle
4) pentagon

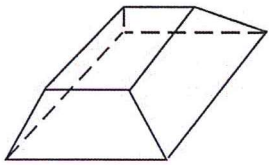
circle

9. Which figure can have the same cross section as a sphere?

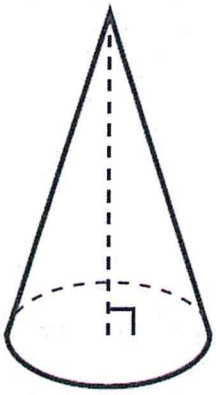
1) 

3) 

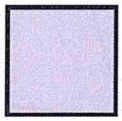
2) 

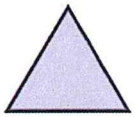
4) 

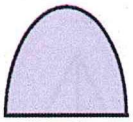
10. William is drawing pictures of cross sections of the right circular cone below.

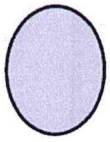


Which drawing can *not* be a cross section of a cone?

1) 

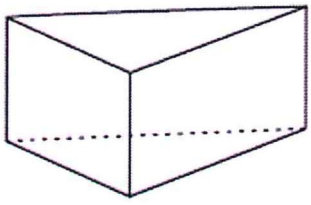
2) 

3) 

4) 

11. The right prism with a triangular base shown below is cut by a plane perpendicular to its bases.

Vertical



The two-dimensional shape of the cross section is always a

1) triangle
2) rhombus
3) pentagon
4) rectangle

12. A plane intersects a hexagonal prism. The plane is perpendicular to the base of the prism. Which two-dimensional figure is the cross section of the plane intersecting the prism?

1) triangle
2) trapezoid
3) hexagon
4) rectangle

13. A right cylinder is cut perpendicular to its base. The shape of the cross section is a

1) circle
2) cylinder
3) rectangle
4) triangular prism

14. The cross section of a regular pyramid contains the altitude of the pyramid. The shape of this cross section is a

1) circle
2) square
3) triangle
4) rectangle

15. A two-dimensional cross section is taken of a three-dimensional object. If this cross section is a triangle, what can *not* be the three-dimensional object?

1) cone
2) cylinder
3) pyramid
4) rectangular prism

16. A plane intersects a sphere. Which two-dimensional shape is formed by this cross section?

1) rectangle
2) triangle
3) square
4) circle

17. Which is *not* a possible two-dimensional cross section of a three-dimensional cylinder?

1) circle
2) rectangle
3) ellipse
4) triangle

18. Which figure(s) below can have a triangle as a two-dimensional cross section?

I. cone
II. cylinder
III. cube
IV. square pyramid

1) I, only
2) IV, only
3) I, II, and IV, only
4) I, III, and IV, only