G.GMD.B.4: Cross-Sections of Three-Dimensional Objects
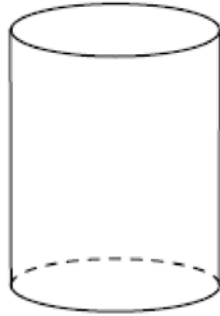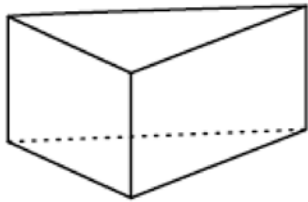
1   A plane intersects a cylinder perpendicular to its bases.

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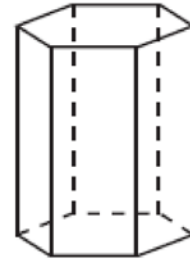1)   rectangle
2)   parabola
3)   triangle
4)   circle

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

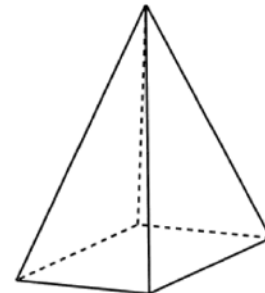The two-dimensional shape of the cross section is always a
1)   triangle
2)   rhombus
3)   pentagon
4)   rectangle

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

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

4   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

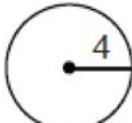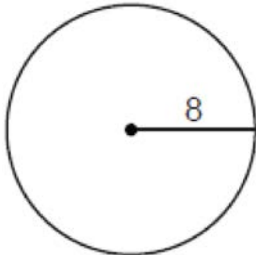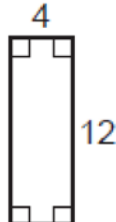5   A square pyramid is intersected by a plane passing through the vertex and perpendicular to the base.
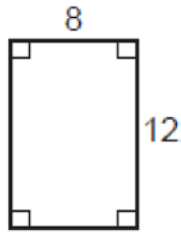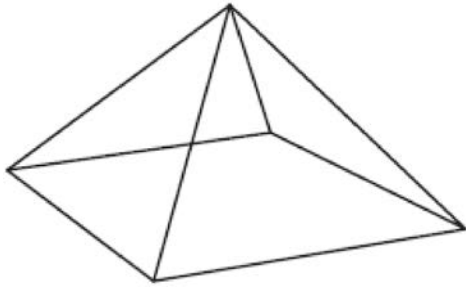

Which two-dimensional shape describes this cross section?
1)   square
2)   triangle
3)   pentagon
4)   rectangle

6   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

7   A right cylinder is cut parallel to its base. The shape of this cross section is a
1)   cone
2)   circle
3)   triangle
4)   rectangle

8   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

9   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

10   A plane intersects a sphere. Which two-dimensional shape is formed by this cross section?
1)   rectangle
2)   triangle
3)   square
4)   circle

11   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

12   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

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

1)

2)

3)

4)
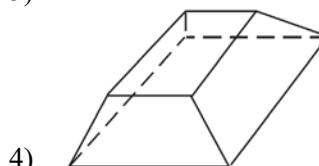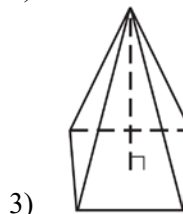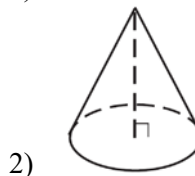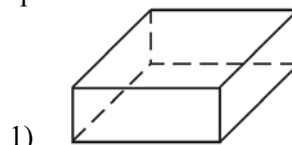
14 A right circular cylinder has a diameter of 8 inches and a height of 12 inches. Which two-dimensional figure shows a cross section that is perpendicular to the base and passes through the center of the base?

1)

2)

3)

4)

15 William is drawing pictures of cross sections of the right circular cone below.
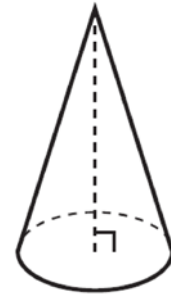
Which drawing can *not* be a cross section of a cone?

1)

2)

3)

4)

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Answer Section

1	ANS:	1	REF:	082211geo
2	ANS:	4	REF:	082422geo
3	ANS:	2	REF:	011805geo
4	ANS:	2	REF:	062202geo
5	ANS:	2	REF:	062301geo
6	ANS:	3	REF:	081805geo
7	ANS:	2	REF:	062402geo
8	ANS:	3	REF:	081613geo
9	ANS:	4	REF:	011723geo
10	ANS:	4	REF:	082301geo
11	ANS:	2	REF:	081701geo
12	ANS:	4	REF:	012019geo
13	ANS:	2	REF:	061506geo
14	ANS:	4	REF:	012415geo
15	ANS:	1	REF:	011601geo