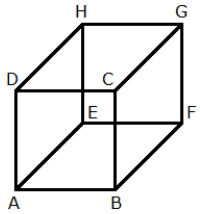
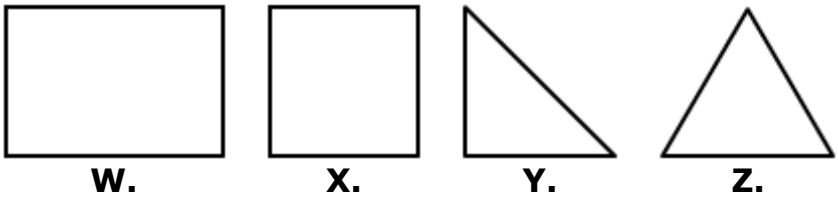
Name _____

6c, 3-Dimensional Figures

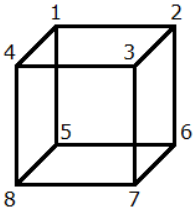
1.



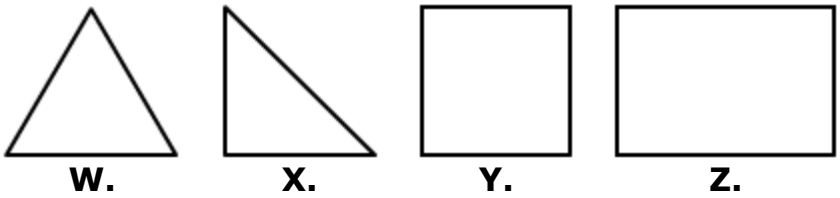
The rectangular prism above has two congruent square faces and four congruent rectangular faces. If the rectangular prism is divided into two equal parts by a plane passing through edges AB and HG, which of the following best describes the cross-section of the prism?



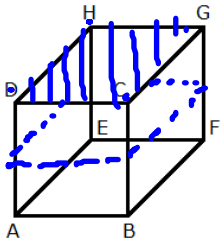
2.



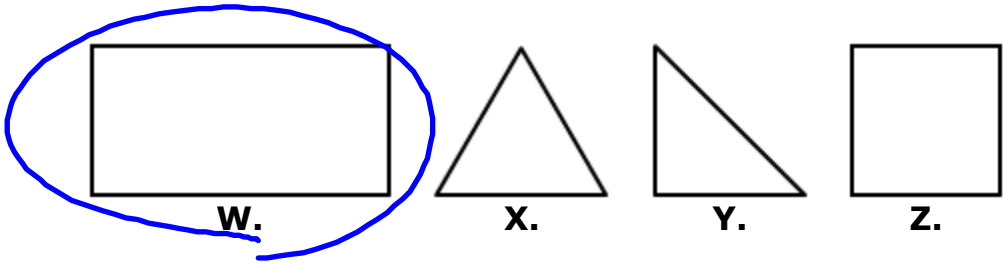
If the cube shown above is sliced by a plane through vertices 1, 6, and 8, which of the following best describes the cross-section of the cube?



3.

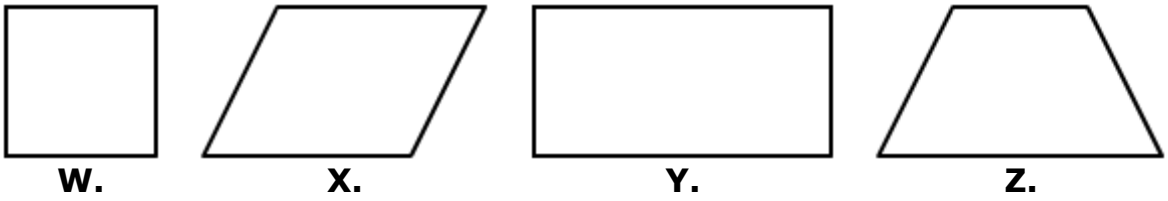


The rectangular prism above has two congruent square faces and four congruent rectangular faces. If the rectangular prism is divided into two equal parts by a plane parallel to face CDHG, which of the following best describes the cross-section of the prism?

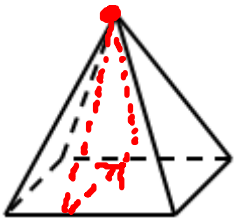


4.

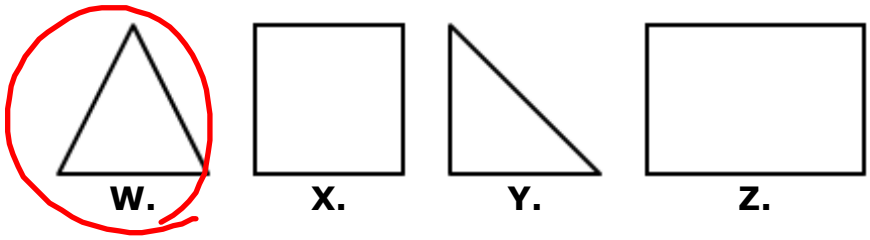
If the rectangular pyramid shown above is sliced by a plane parallel to the base, which of the following best describes the cross-section of the pyramid? *(Note: The rectangular base is not a square.)*



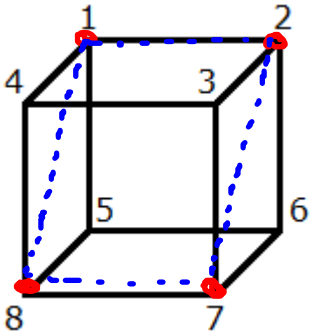
5.



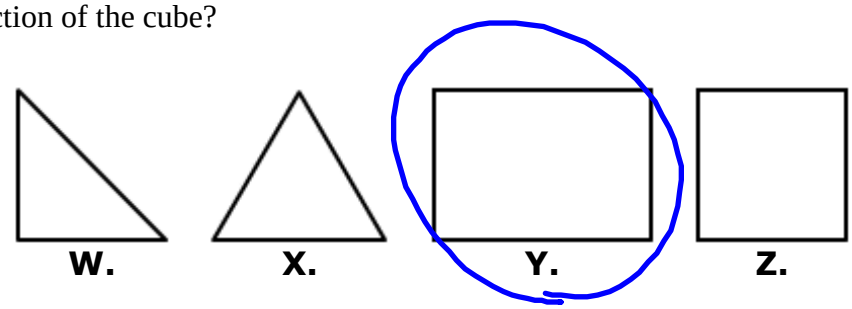
If the square pyramid shown above is sliced by a plane perpendicular to the base and passing through the top vertex, which of the following best describes the cross-section of the pyramid?



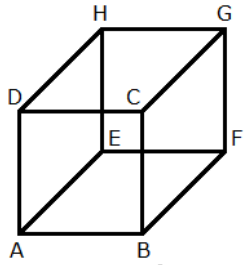
6.



If the cube shown above is sliced by a plane through vertices 1, 2, 7, and 8, which of the following best describes the cross-section of the cube?



7. The rectangular prism below has two congruent square faces and four congruent rectangular faces.



Note: Figure is not drawn to scale.

The line segment formed by connecting vertices E and B is 16 units long, the line segment formed by connecting vertices G and E is 14 units long, and the line segment formed by connecting vertices H and A is 16 units long.

If the rectangular prism is sliced by a plane that passes through vertices H, C, and A, which of the following best describes the resulting cross-section of the prism?

- **A.** a triangle with side lengths of 16 units, 14 units, and 16 units
- **B.** a triangle with a height of 16 units and a base of 14 units
- **C.** a rectangle with a length of 16 units and a width of 14 units
- **D.** a square with side lengths of 16 units

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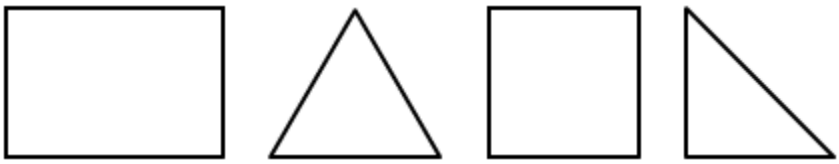
8. If a cube is divided into two equal parts by a plane parallel to a face of the cube, which of the following best describes the cross-section of the cube?



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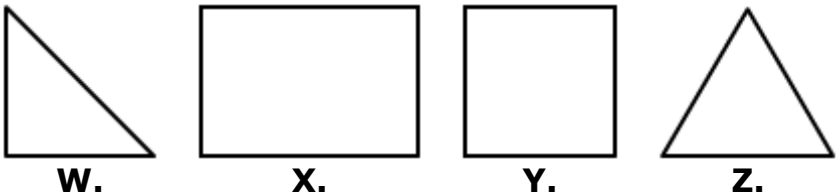
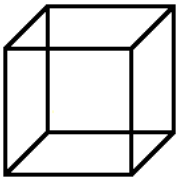
9. If a cube is divided into two equal parts by a plane that passes through two edges diagonal to each other, which of the following best describes the cross-section of the cube?



10. Which of the following lists all the types of shapes that can be created by taking cross-sections of a cube like the one shown below?



- **A.** triangles, quadrilaterals, pentagons, and hexagons only
- **B.** quadrilaterals only
- **C.** triangles and quadrilaterals only
- **D.** triangles, quadrilaterals, pentagons, hexagons, and heptagons

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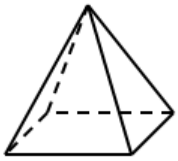
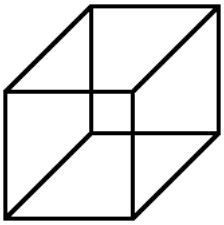
11.



If the square pyramid shown above is sliced by a plane parallel to the base, which of the following best describes the cross-section of the pyramid?

12.

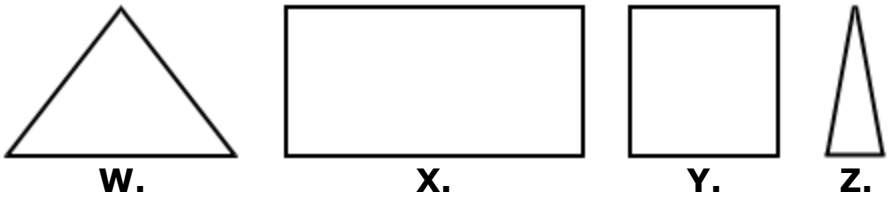


Which types of triangles can be formed by taking the cross-section of a rectangular prism like the one shown above?

- **A.** equilateral, isosceles, and scalene
- **B.** isosceles and scalene only
- **C.** equilateral and isosceles only
- **D.** No triangles can be formed by taking the cross-section of a rectangular prism.

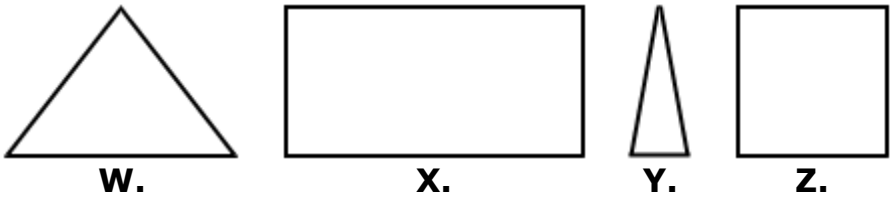
13.

If the rectangular pyramid shown above is sliced by a plane that passes through two diagonal vertices on the base and the top vertex, which of the following best describes the cross-section of the pyramid?



14.

If the rectangular pyramid shown above is sliced by a plane parallel to the two longer sides of the base and passing through the top vertex, which of the following best describes the cross-section of the pyramid?



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15. If a plane slices a rectangular prism through three points that are equidistant from one of its vertices, which of the following best describes the cross-section of the prism?