

Chapter 12 notes!!!

12.1 Exploring Solids

POLYHEDRA -a solid that is bounded by polygons	FACES -the polygons that make up the sides of the figure
VERTEX -point where 3 or more edges meet	EDGE -a line segment formed by the intersection of 2 faces

NAMING solids

PRISM- Faces are made of rectangles

BASE OF A PRISM- The non-rectangular face

PYRAMID- Faces are triangles

BASE OF A PYRAMID- Non-triangular side (Opposite of the main vertex)



Triangular Prism

Prism



Rectangular Pyramid

Pyramid



Pentagonal Prism

EULER'S THEOREM-

-the number of faces (F), vertices (V), and edges (E) of a polyhedron are related in the formula:

$$\underline{F + V = E + 2}$$

FIND THE NUMBER OF :

FACES-8

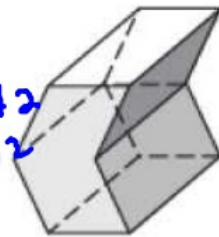
VERTICES- 12

EDGES-18

$$F + V = E + 2$$

$$8 + 12 = 18 + 2$$

$$20 = 20$$



Find the missing length in the given scenarios:

F= 10
V= ?
E= 15

$$F + V = E + 2$$
$$10 + V = 15 + 2$$
$$10 + V = 17$$

$$\boxed{V = 7}$$

F= 9
V= 11
E= ?

$$F + V = E + 2$$
$$9 + 11 = E + 2$$
$$20 = E + 2$$

$$\boxed{18 = E}$$

F= ?
V= 7
E= 14

$$F + V = E + 2$$
$$F + 7 = 14 + 2$$
$$F + 7 = 16$$

$$\boxed{F = 9}$$

F= 9
V= ?
E= 17

$$F + V = E + 2$$
$$9 + V = 17 + 2$$
$$9 + V = 19$$

$$\boxed{V = 10}$$

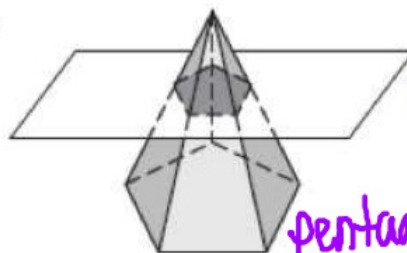
DESCRIBE THE SHAPE OF THE CROSS-SECTION (the intersection of a plane and solid)

a.



• circle
3D ~ sphere

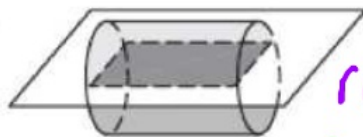
b.



pentagon

pentagonal
pyramid

c.



rectangle
~ cylinder