

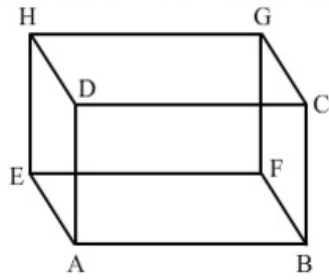


Exercise 19B

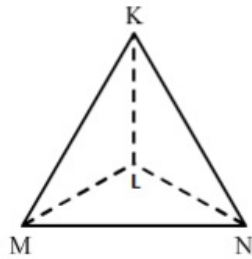
Q4.

Answer :

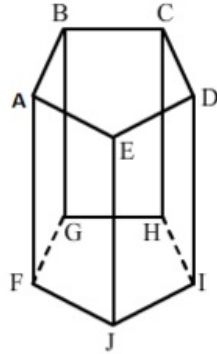
(i) A cuboid has 8 vertices, namely A, B, C, D, E, F, G and H .



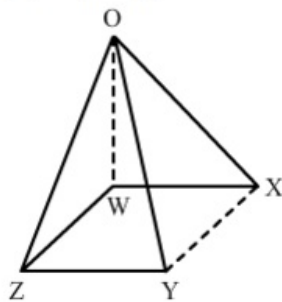
(ii) A tetrahedron has 4 vertices, namely K, L, M and N .



(iii) A pentagonal prism has 10 vertices, namely $A, B, C, D, E, F, G, H, I$ and J .



(iv) A square pyramid has 5 vertices, namely O, W, X, Y and Z .



Q5.

Answer :

Euler's relation is:

$$F - E + V = 2$$

Here :

F – Number of faces

E – Number of edges

V – Number of vertices

(i) A square prism

(There is an error in this question. It should have been a square prism rather than square.)

$$\text{Number of faces} = F = 2 \text{ squares} + 4 \text{ rectangular} = 6$$

$$\text{Number of edges} = E = 12$$

$$\text{Number of vertices} = V = 8$$

$$\Rightarrow (F - E + V) = 6 - 12 + 8 = 2$$

(ii) A tetrahedron

$$\text{Number of faces} = F = 4$$

$$\text{Number of edges} = E = 6$$

$$\text{Number of vertices} = V = 4$$

$$\Rightarrow (F - E + V) = 4 - 6 + 4 = 2$$

(iii) A triangular prism

$$\text{Number of faces} = F = 2 \text{ triangular} + 3 \text{ rectangular} = 5$$

$$\text{Number of edges} = E = 9$$

$$\text{Number of vertices} = V = 6$$

$$\Rightarrow (F - E + V) = 5 - 9 + 6 = 2$$

(iv) A square pyramid

$$\text{Number of faces} = F = 2 \text{ triangular} + 3 \text{ rectangular} = 5$$

$$\text{Number of edges} = E = 8$$

$$\text{Number of vertices} = V = 5$$

$$\Rightarrow (F - E + V) = 5 - 8 + 5 = 2$$

*****END*****