MATHEMATICS
CLASS VIII
SA-1
Assignment No. 9
Ch 13 Representation of Three Dimensional Figures

1. Tick the correct alternative :

i. The number of faces of an octagonal pyramid
   a) 8 b) 9 c) 16 d) 17

ii. The Euler's formula cannot be applied for
   a) Cone b) Sphere c) Cylinder d) All of these

iii. Euler's formula is
   a) V + F – 2 = E b) F + E – V = 2 c) E + V + F = 2 d) F + V – E = 2

iv. If F = 20 and V = 12, then value of E is
   a) 8 b) 15 c) 30 d) 34

2. Can a polyhedron have for its faces:
   i. 3 triangles?
   ii. 4 triangles?
   iii. A square and four triangles?
3. Is it possible to have a polyhedron with any given number of faces?
4. Is a square prism same as cube?
5. Can a polyhedron have 10 faces, 20 edges and 15 vertices?
6. How many faces, vertices and edges does a tetrahedron have? Verify Euler's formula for the same.
7. Verify Euler's formula for a hexagonal prism.
8. How many edges does a polyhedron have which has four faces and four vertices?
9. A polyhedron has 30 edges and 20 vertices. How many faces does this polyhedron have?
10. A polyhedron has 7 faces and 15 edges. How many vertices does this polyhedron have? Can you give a special name to this polyhedron?
11. Calculate the number of faces of a polyhedron which has 9 edges and 6 vertices. What special name can you give to this polyhedron?
12. Calculate the number of vertices of a polyhedron which has 16 faces and 30 edges.
13. How many faces, edges and vertices does
    i. a prism have?
    ii. a pyramid whose base is a polygon of n sides have?
13. If a polyhedron has 6 faces and 8 vertices, find its number of edges.
14. A polyhedron has 30 edges and 20 vertices. Find the number of its faces.