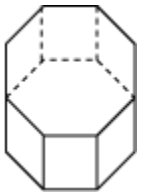
Visualising Solid Shapes

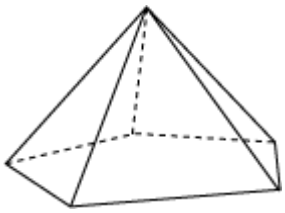
- A prism is a polyhedron whose base and top are congruent polygons and whose lateral faces are parallelograms in shape.

  For example:



- A pyramid is a polyhedron whose base is a polygon (of any number of sides) and whose lateral faces are triangles with a common vertex.

  For example:

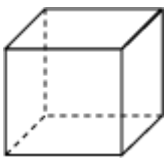


  Note: A prism or a pyramid is named subsequent to the shape of its base. For instance, pentagonal prism and pentagonal pyramid are named after their base, pentagon.

- For any polyhedron, F + V – E = 2, where F is the number of faces, V is the number of vertices and E is the number of edges.

  This relationship is called Euler's formula.

  Example: Verify Euler's formula for the given solid.



  Solution: The given figure is a cube.

  We have

  Number of vertices, V = 8

Number of edges, E = 12

Number of faces, F = 6

Thus, F + V – E = 6 + 8 – 12 = 14 – 12 = 2

Hence, Euler’s formula is verified.