



Grade 7

Mathematics

1 ½ hours

## 25 – Solids

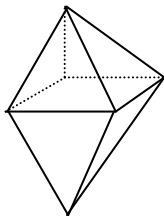
### Part I

- (1) Write down the number of faces, edges and vertices of a cuboid.
- (2) Draw a net that can be used to construct a cuboid.
- (3) Draw a shape of a face of a regular tetrahedron.
- (4) Draw a net that can be used to construct a regular tetrahedron.
- (5) Write down the number of faces, edges and vertices of a square pyramid.

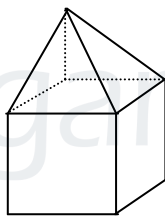
### Part II

- (1) If a certain solid has 8 edges and 5 faces, find the number of vertices of the solid.

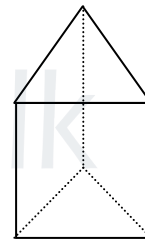
(2)



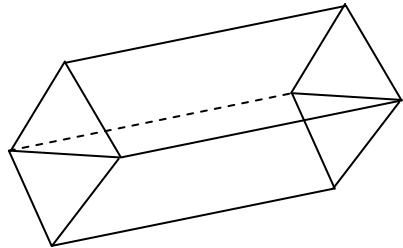
a)



b)



c)

- i) Find the number of edges, faces and vertices of the above solids.
  - ii) Show that the above values satisfy Euler's relationship.
- (3) The solid shown in the figure has been constructed using two triangular prisms. Validate Euler's relationship for this solid.
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- (4)
    - i) Draw the sketch of the solid which has a cube and 6 square pyramid's with bases that are equal to a face of the cube.
    - ii) How many edges, faces and vertices are there in the composite solid?
    - iii) Do these values agree with Euler's relationship?