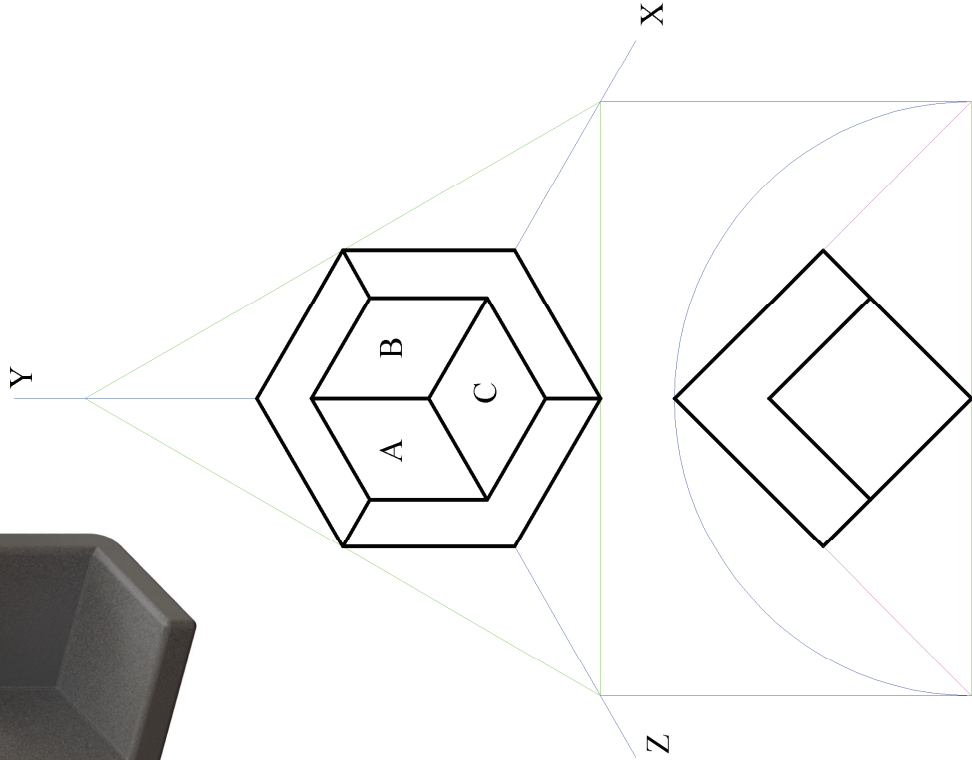
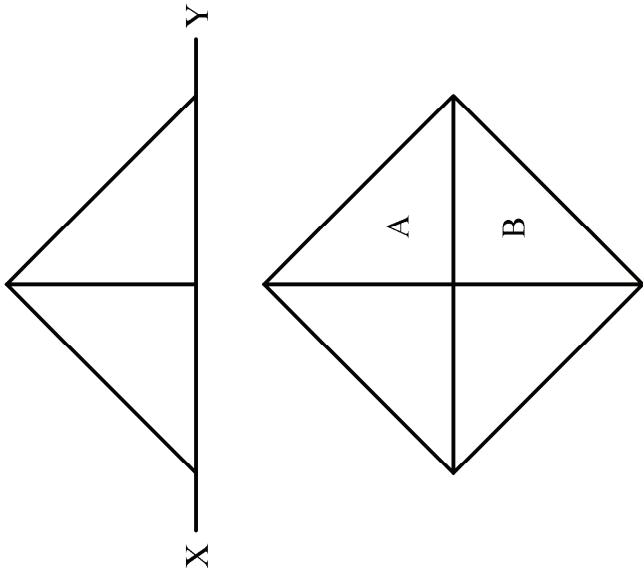


A styrofoam corner protector is shown in the 3D graphic below.  
An axonometric view is shown on the right. A plan which has been positioned relative to the axes is also shown.

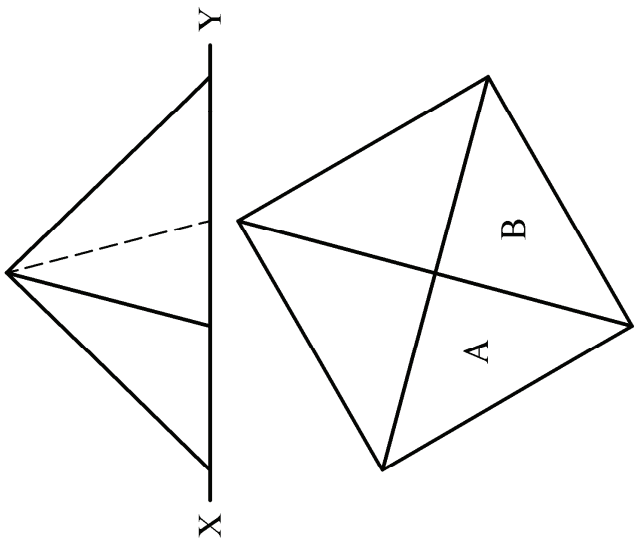
- (a) Indicate the dihedral angle between the surfaces A and B.
- (b) Draw the elevation of the object in the correct position on the XY plane and indicate the dihedral angle between the surfaces A and C.



### Learning Outcomes

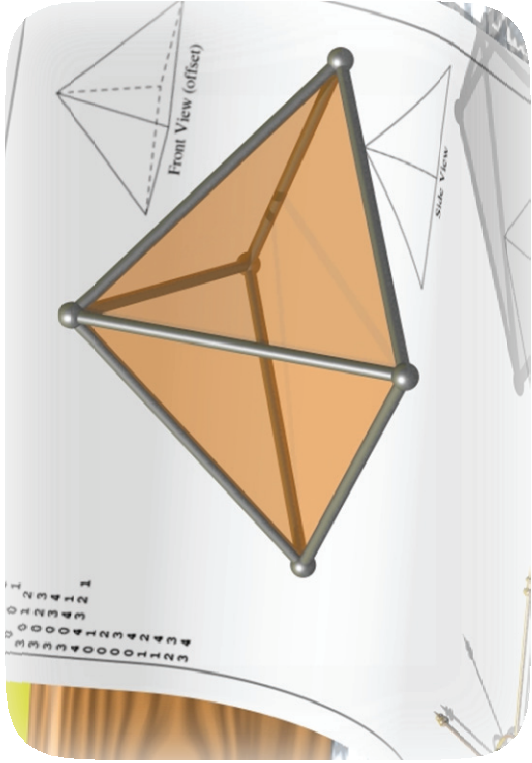
Students should be able to:

- Project a two dimensional view of a solid from its axonometric view on to one of the principal planes of reference
- Establish/determine the dihedral angles between adjacent plane surfaces on solid objects using the point view method



In the world around us, there are many obvious connections between geometry and architecture; the Great Pyramids of Egypt shown in the 3D graphic above are a classic example of square based pyramids.

Use the point view method to determine the dihedral angle between the surfaces A and B of the square based pyramid whose projections are given.



The projections of a square pyramid are shown above.

Determine the dihedral angle between the surfaces A and B using the point view method.



The 3D graphic across shows the nose section of an airplane. The elevation and plan of an airplane windshield are given below.

- (a) Determine the dihedral angle between the surfaces A and B.
- (b) Determine the dihedral angle between the surface C and the horizontal plane.  
*This is called the inclination of the surface C to the horizontal plane.*



Learning Outcomes

Students should be able to:

- Determine the dihedral angles between adjacent plane surfaces

Given the horizontal and vertical projections of two roof surfaces ABC and ABD.

Determine the dihedral angle between the surfaces.

