

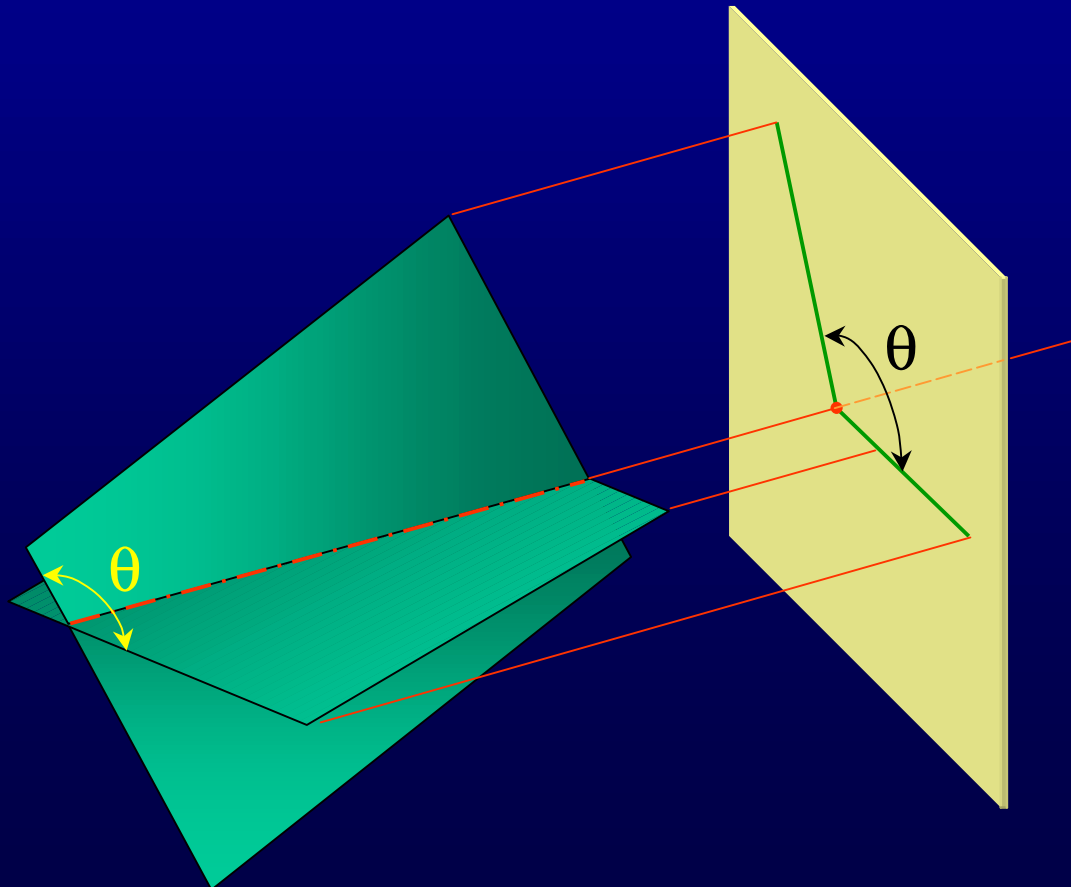
436-105 Engineering Communications

GL12: Descriptive Geometry

- Oblique planes
- Secondary auxiliary views
 - auxiliary plane perpendicular to primary auxiliary plane
- Dihedral angles
 - true angle between planes
- Perpendicular distances
- Applications
 - shadow problems
 - sections

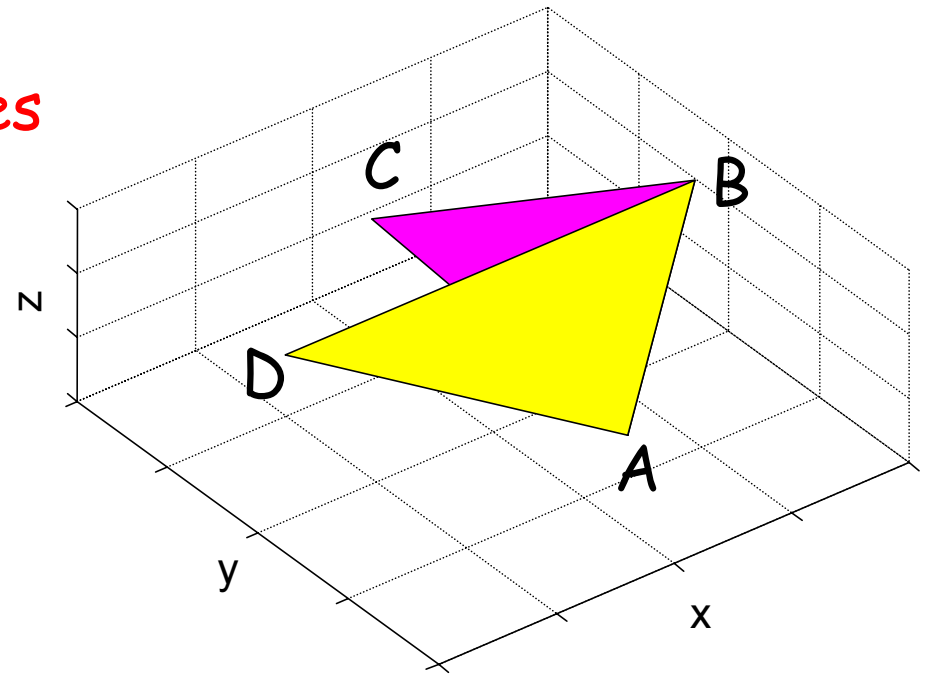
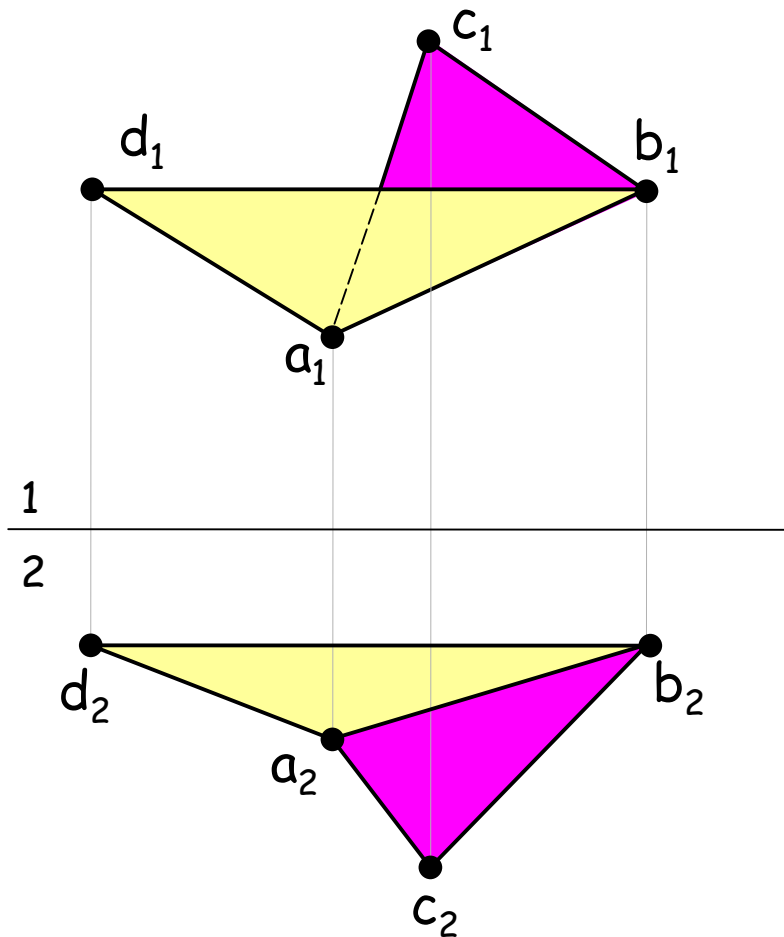
Dihedral angle

- angle θ between planes
- seen when line of intersection viewed as a point



Example:

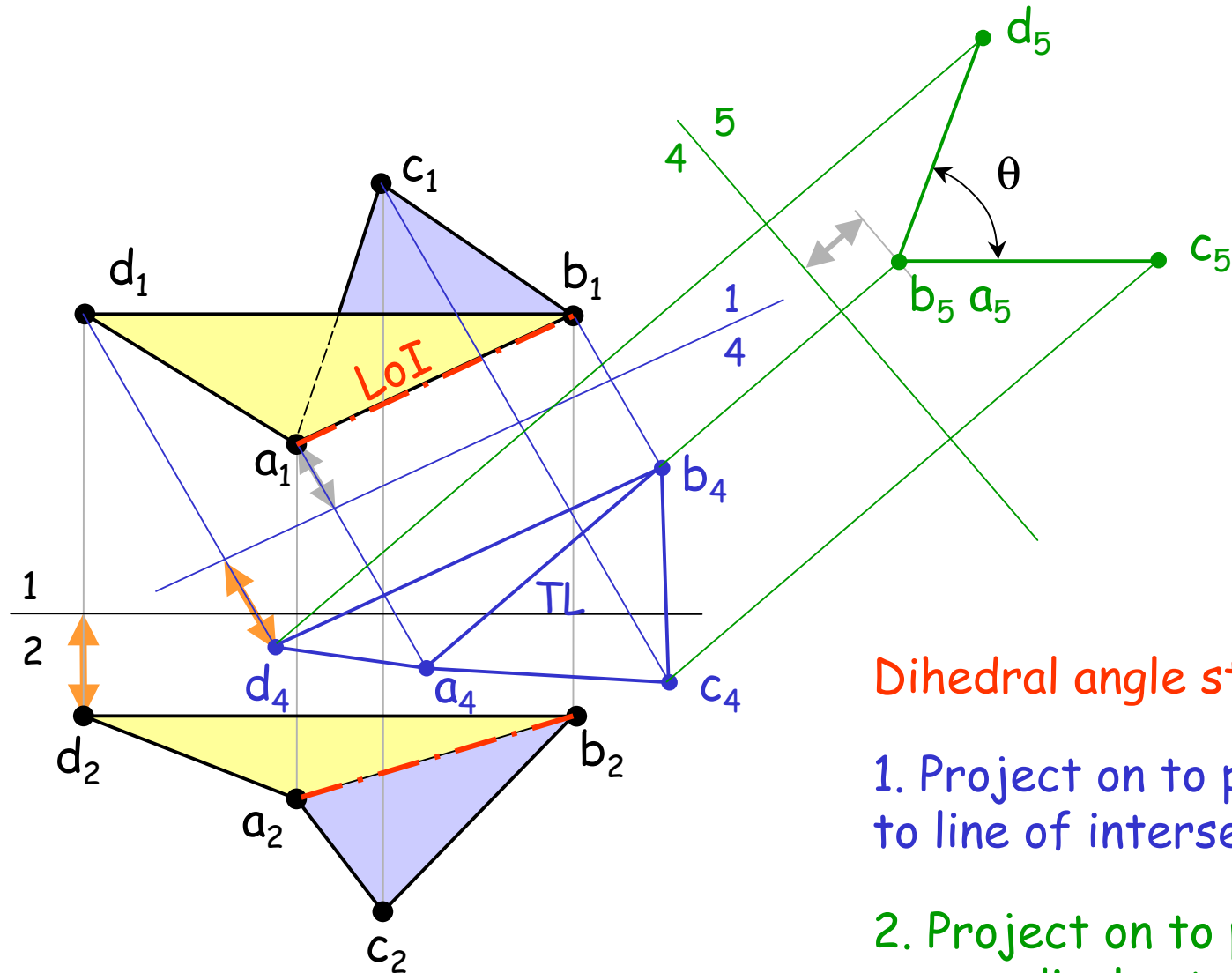
Dihedral angle between planes



Dihedral angle steps:

1. Project on to plane parallel to line of intersection \rightarrow TL
2. Project on to plane perpendicular to LoI \rightarrow point

Dihedral angle between planes



Dihedral angle steps:

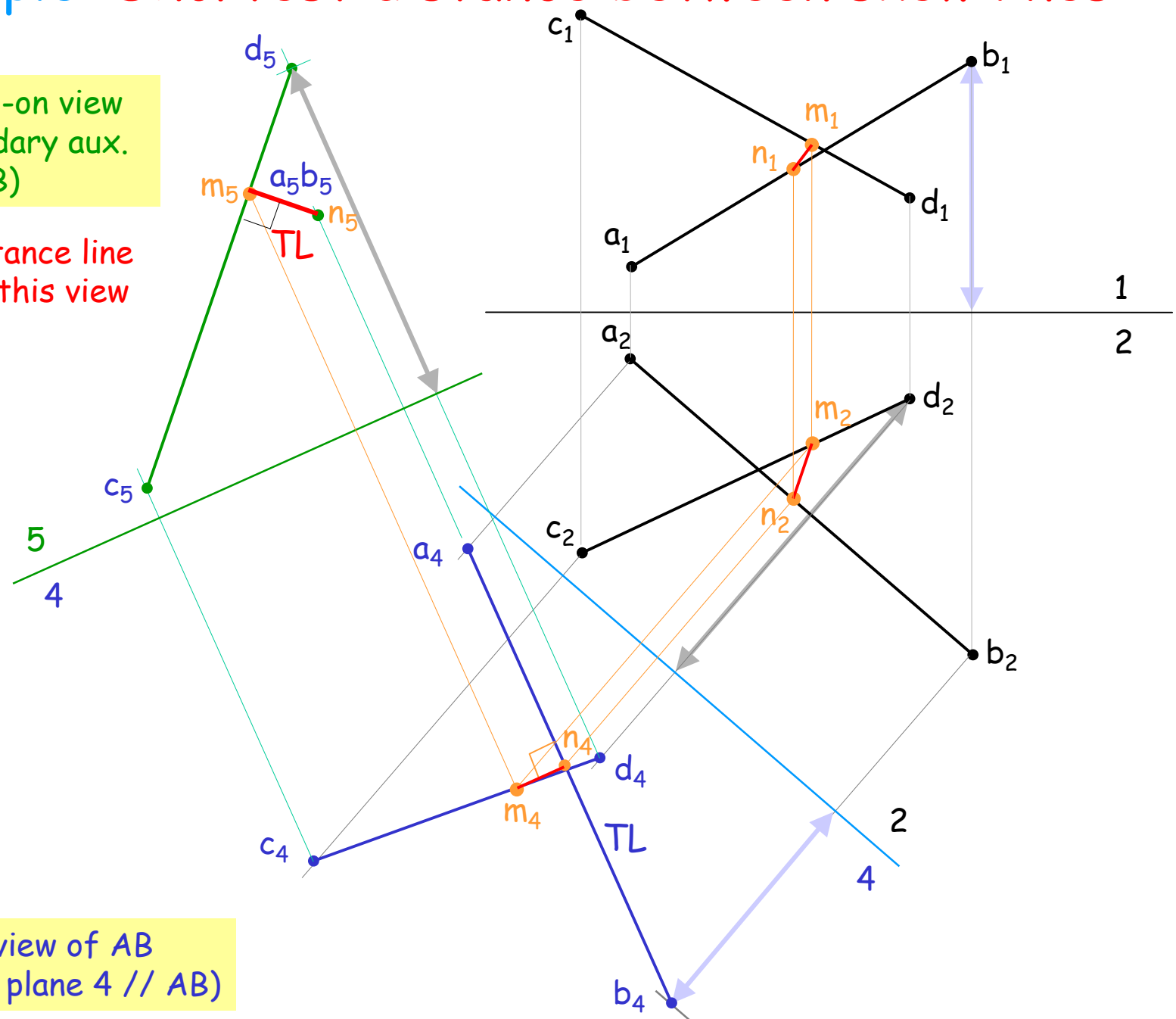
1. Project on to plane 4 parallel to line of intersection $AB \rightarrow TL$

2. Project on to plane 5 perpendicular to $LoI \rightarrow$ point

Example: Shortest distance between skew lines

2. Obtain end-on view of AB (secondary aux. plane 5 \perp AB)

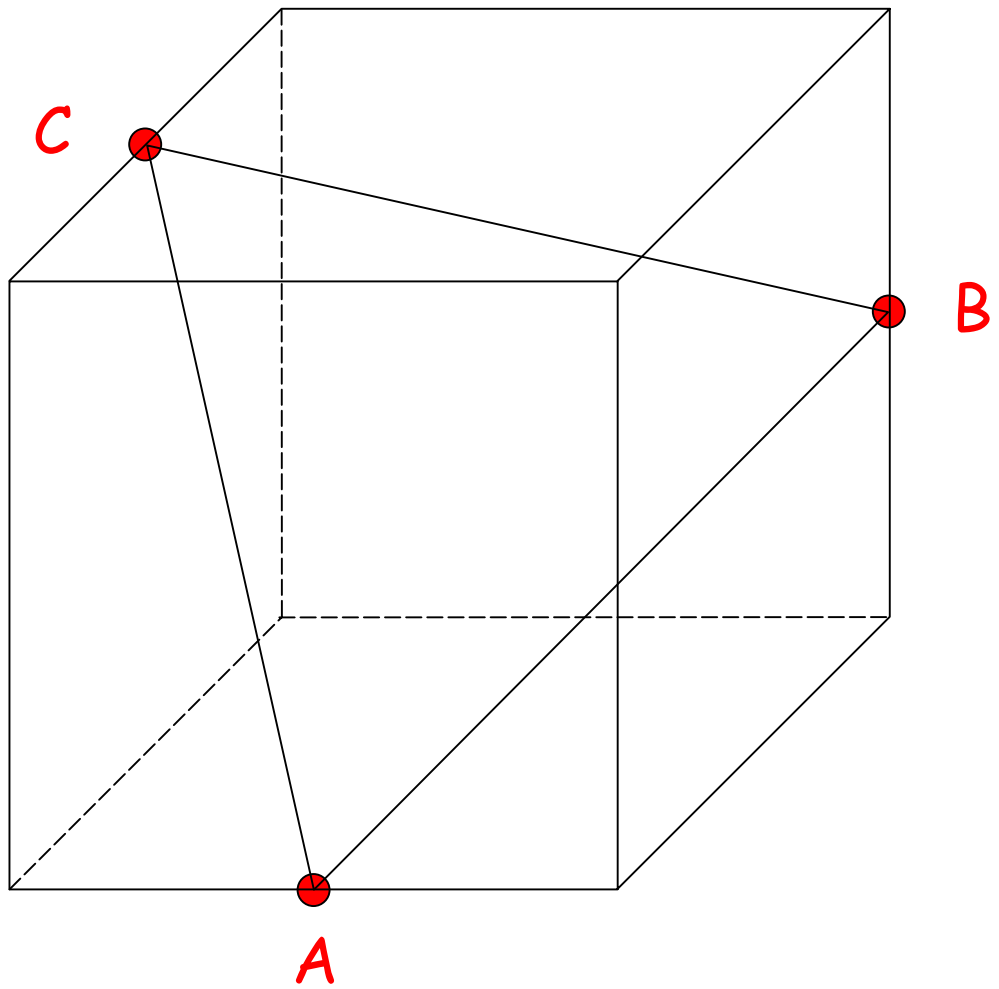
Shortest distance line seen in TL in this view



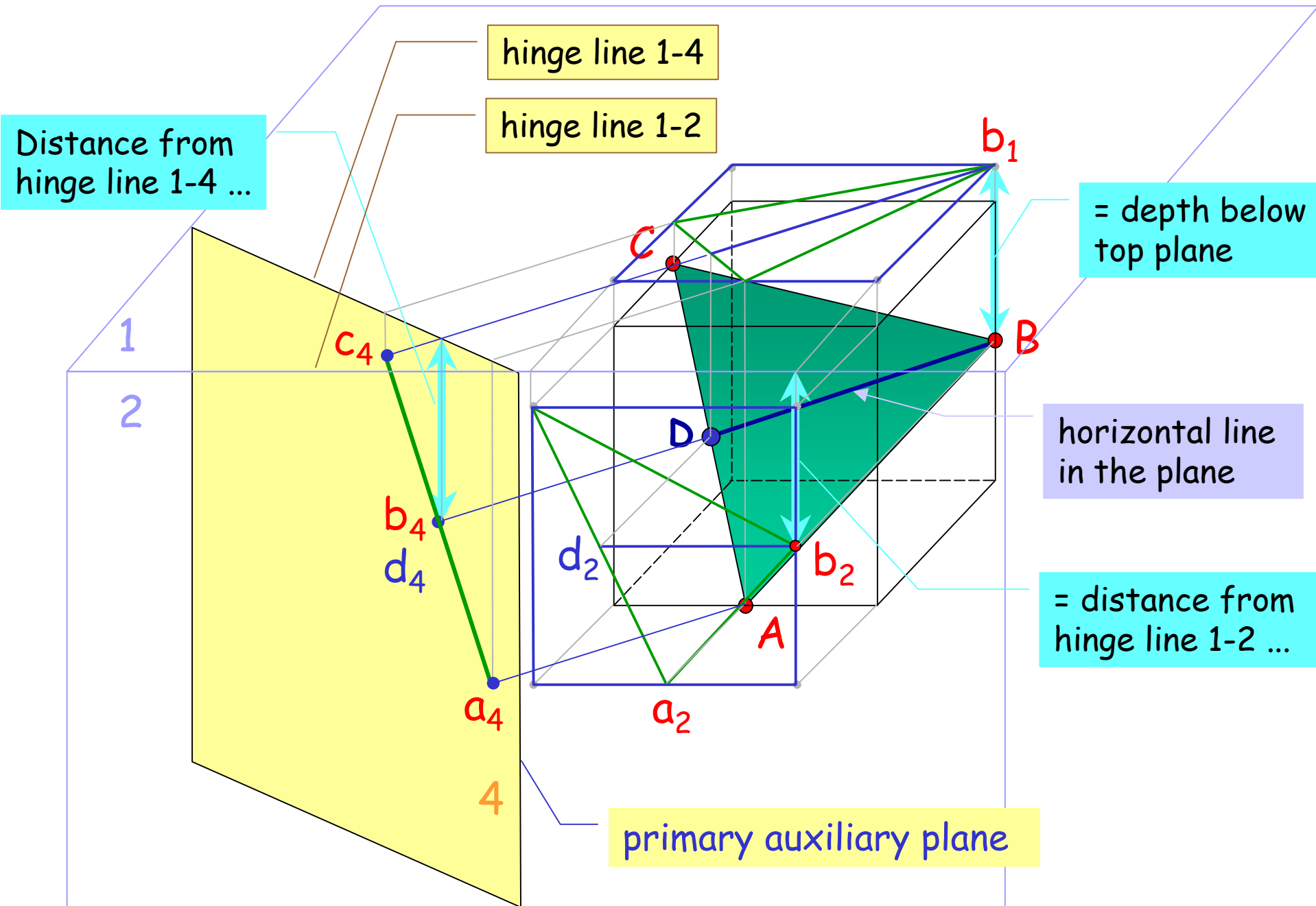
1. Obtain TL view of AB (primary aux. plane 4 // AB)

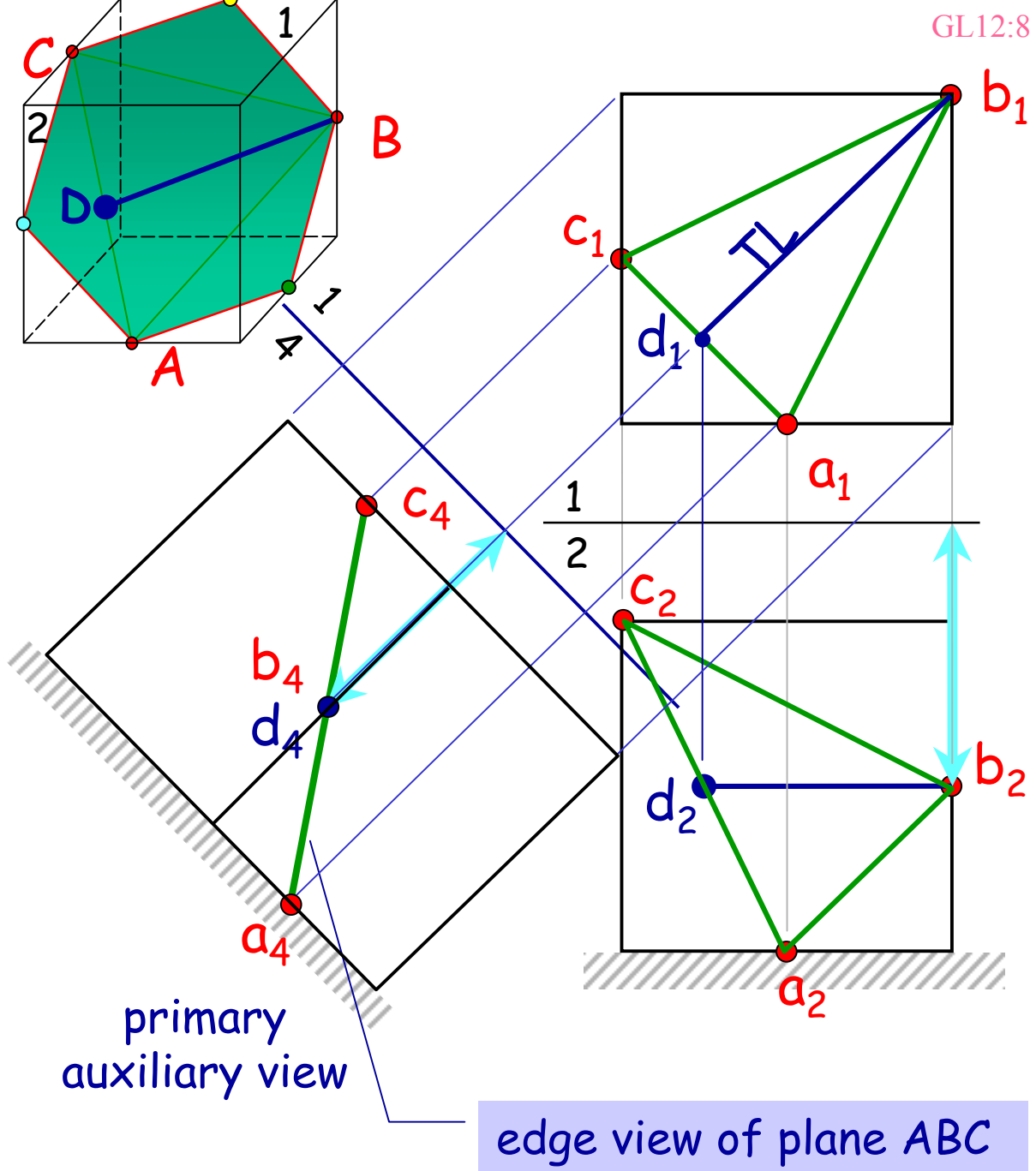
A, B, C are midpoints of sides of cube as shown

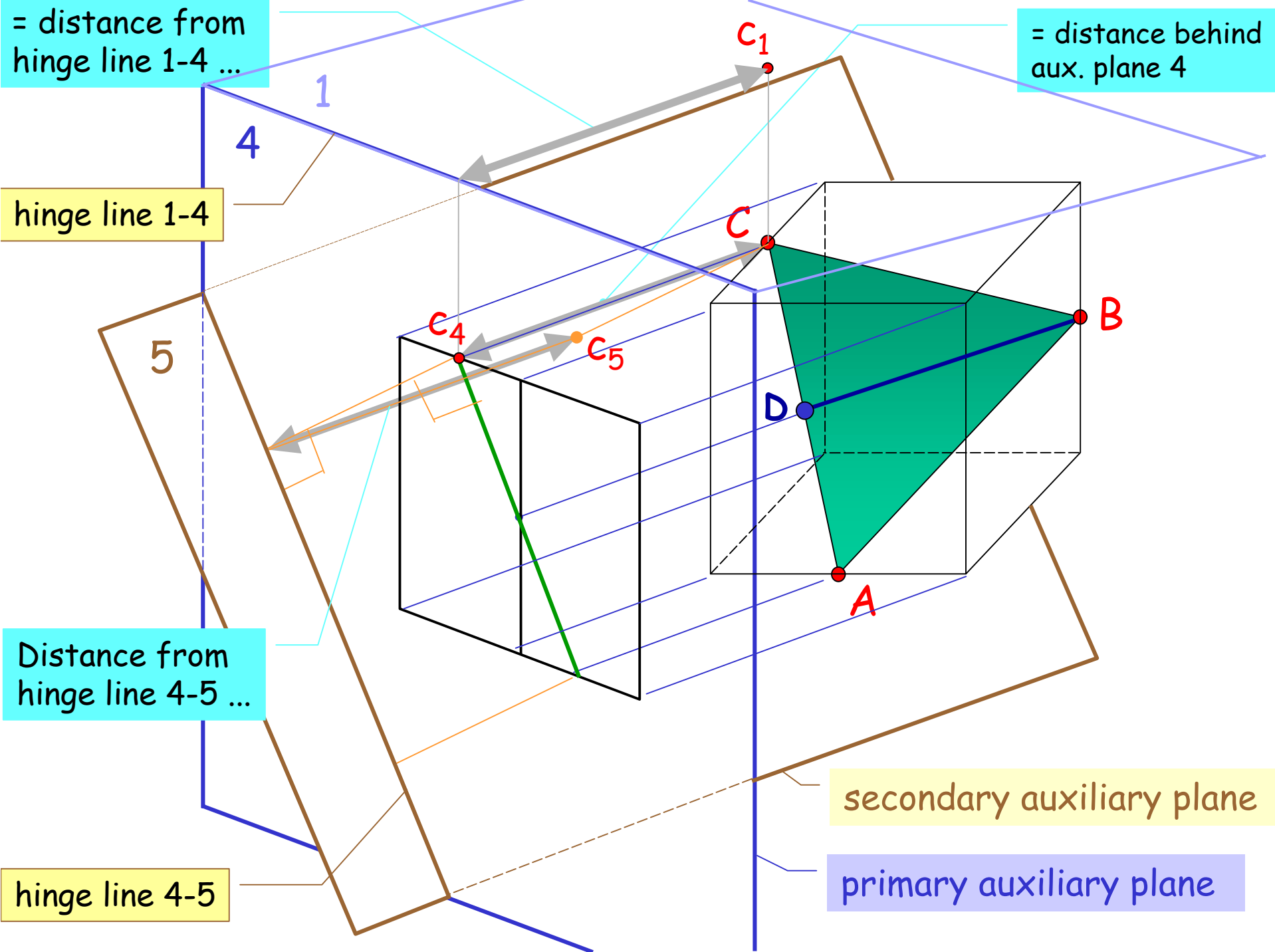
Section problem



Intersection of plane containing ABC and cube
- shape of profile?







Verification of solution with Cartesio (isometric projection)

Define points on cutting plane

