

Lecture 18

SPACE GEOMETRY

:: LINES



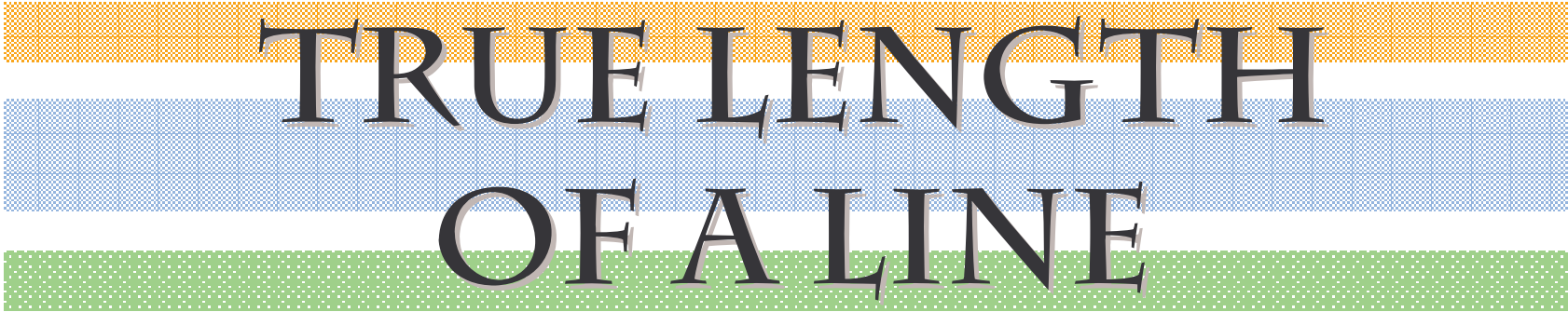
TA 101 : Engineering Graphics

2007-08 Semester II

January – May 2008

OUTLINE

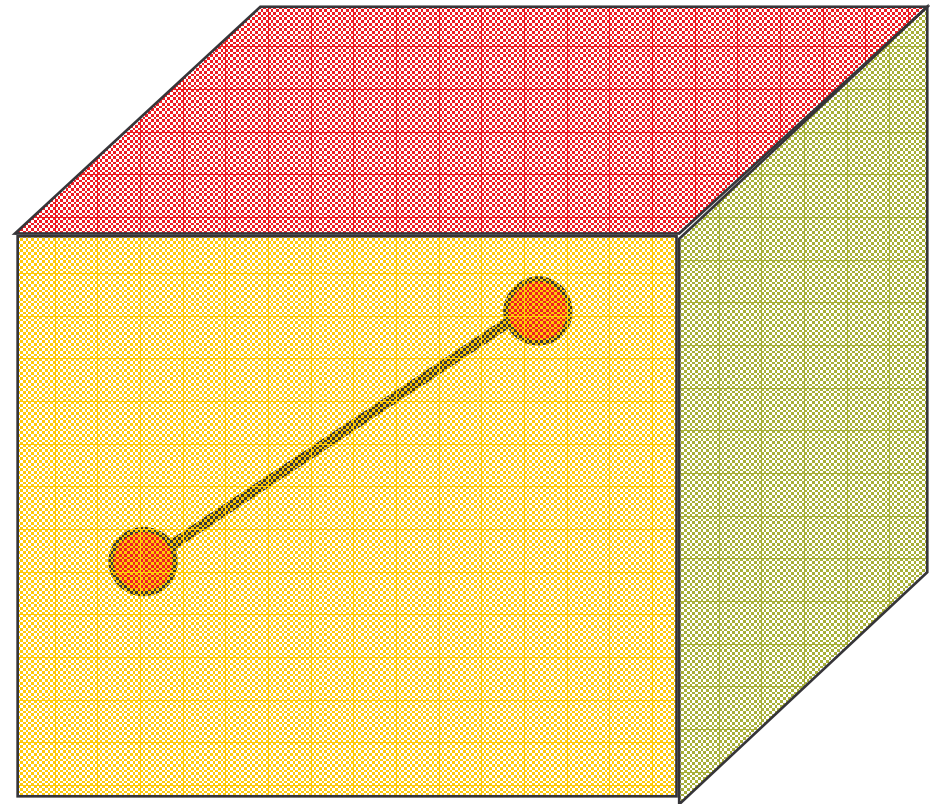
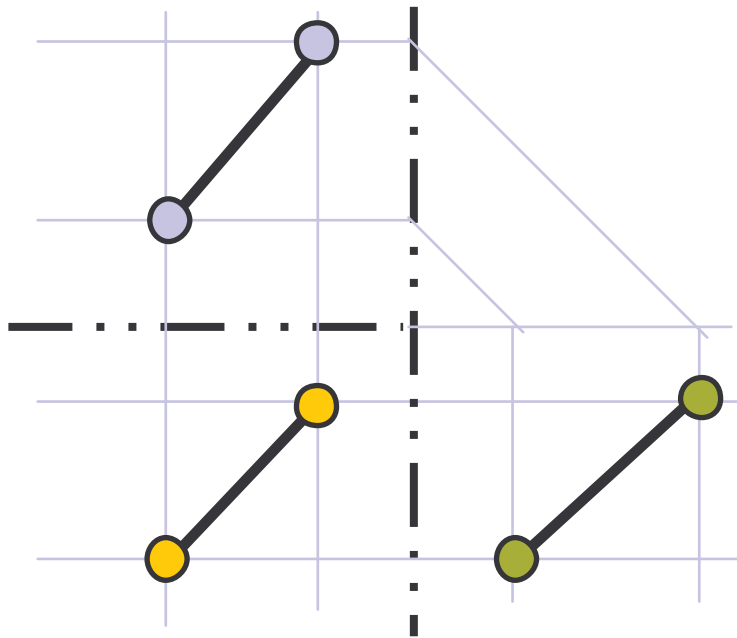
- True Length of a line
 - Auxiliary Plane Method
 - Rotation Method
- Secondary Auxiliary Plane
- Bearing & Gradient of A Line



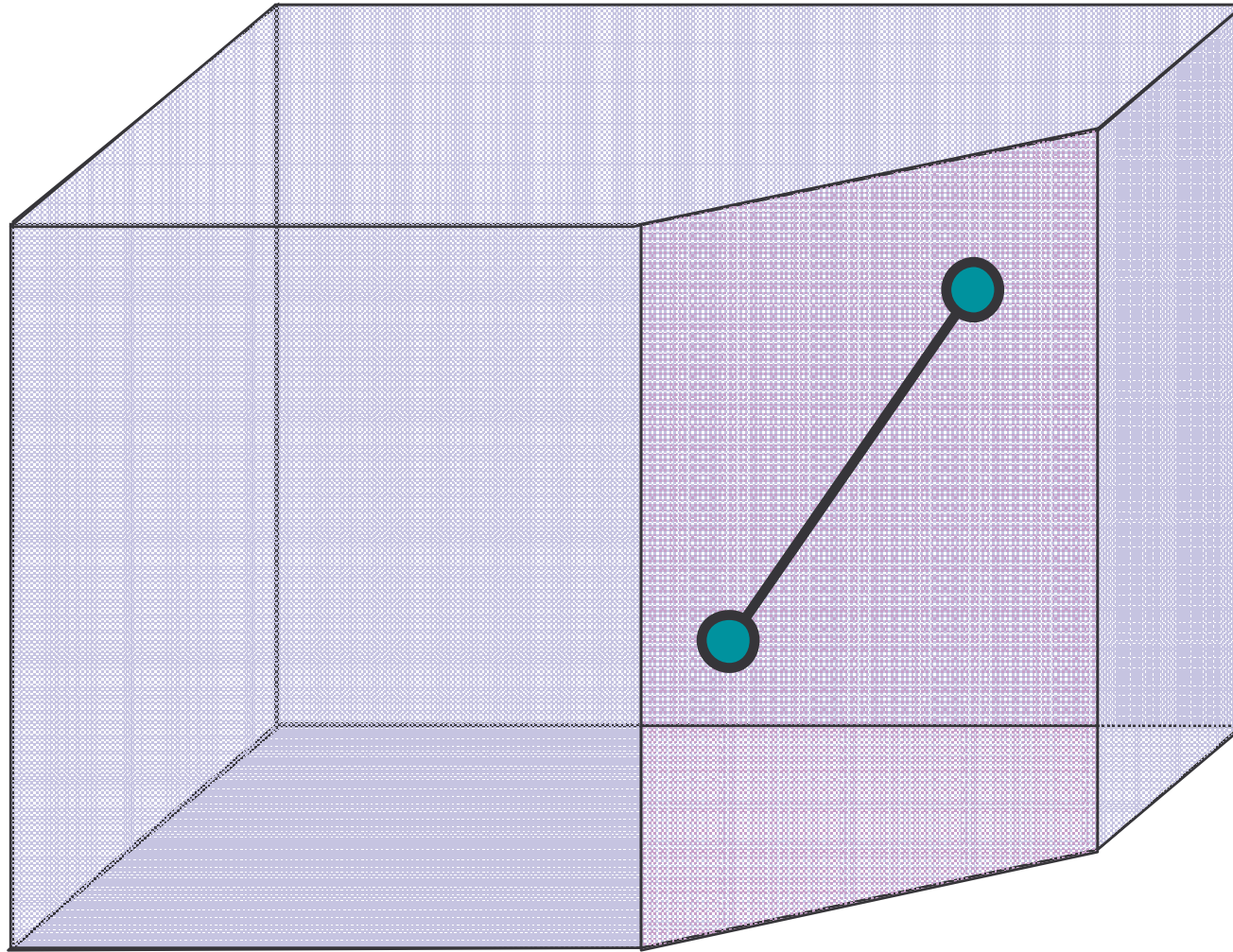
TRUE LENGTH
OF A LINE

A LINE

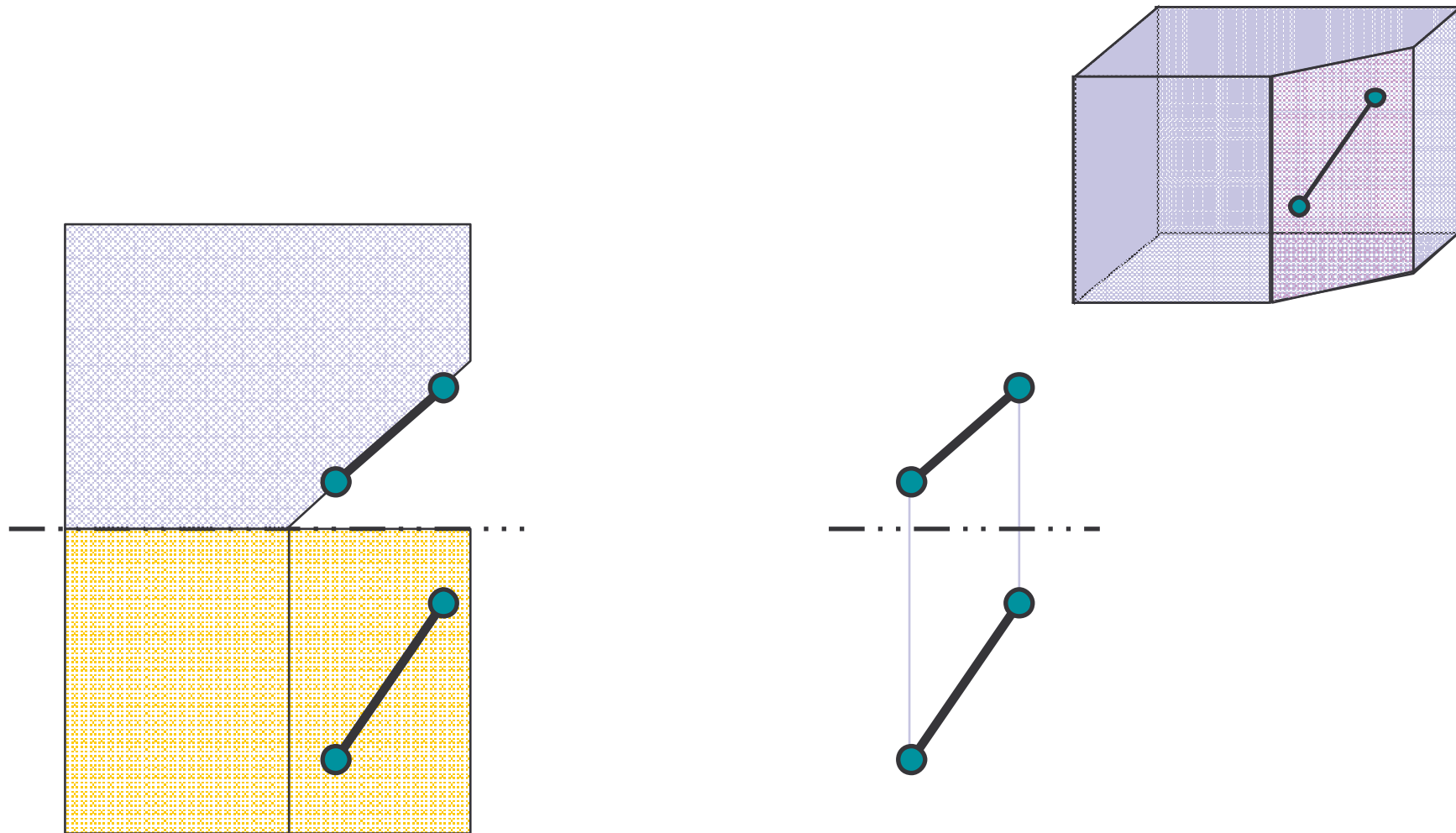
- Arbitrarily oriented in space
 - How does one get its TRUE LENGTH ?



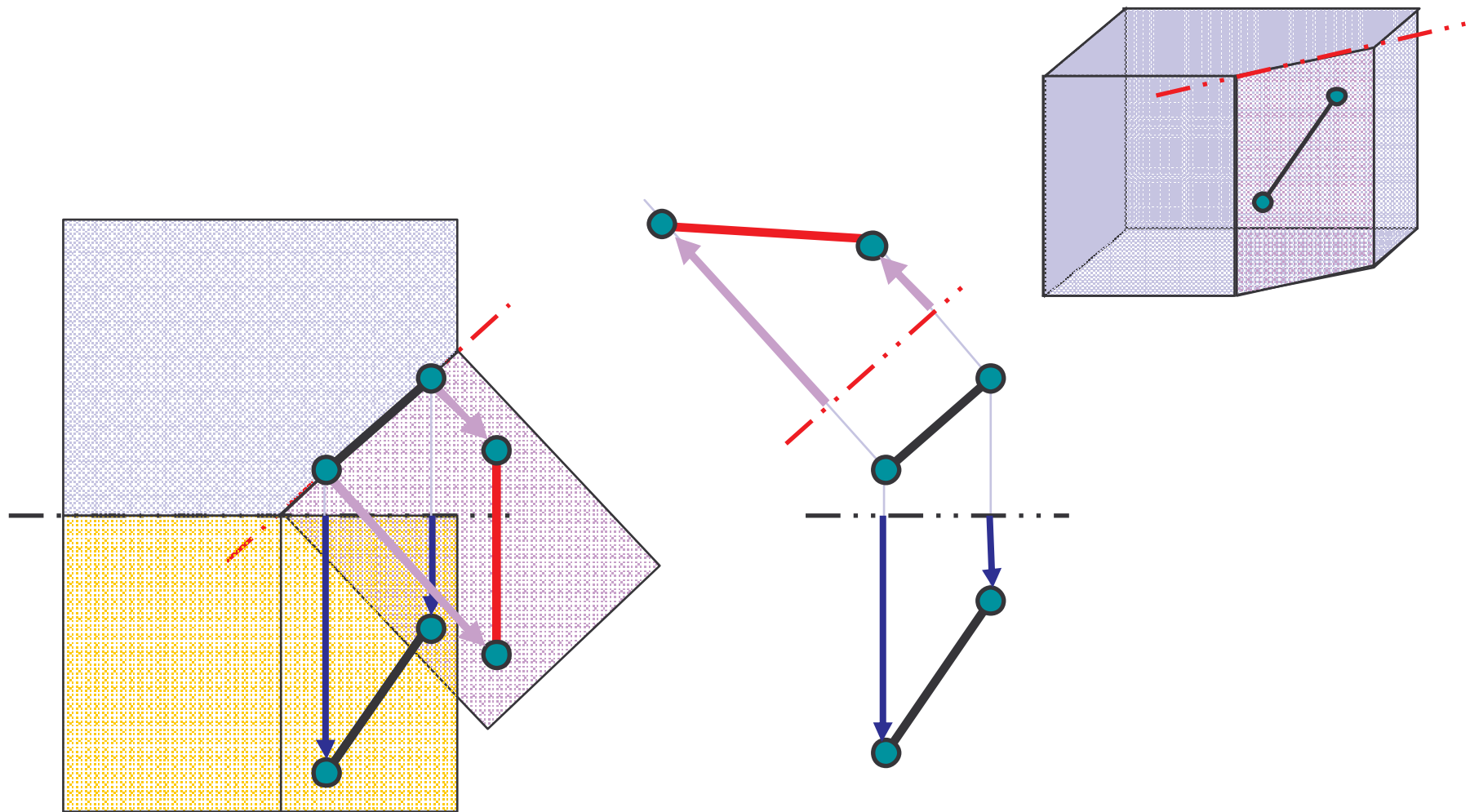
TRANSPARENT VIEWING BOX



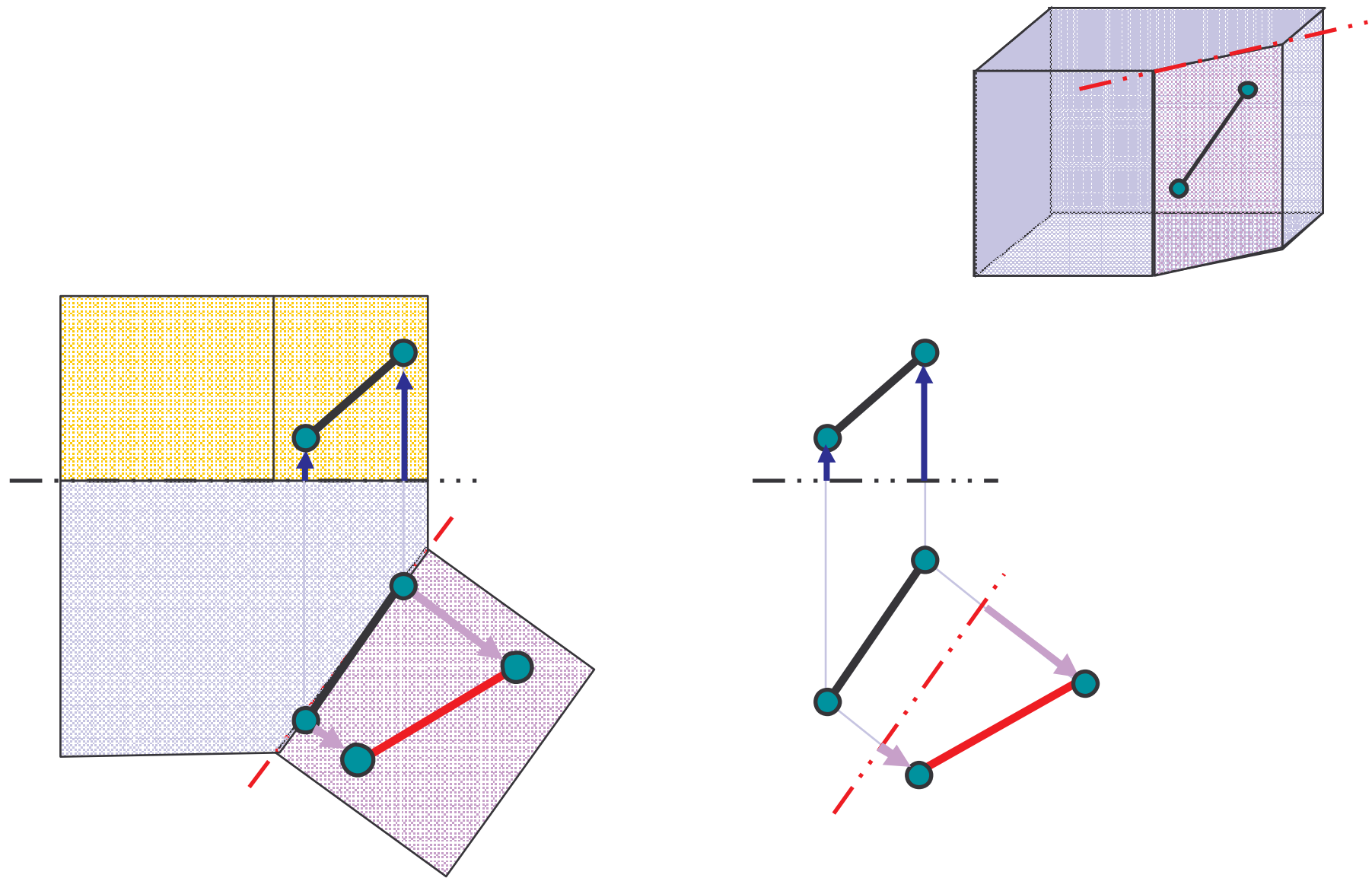
TRANSPARENT VIEWING BOX



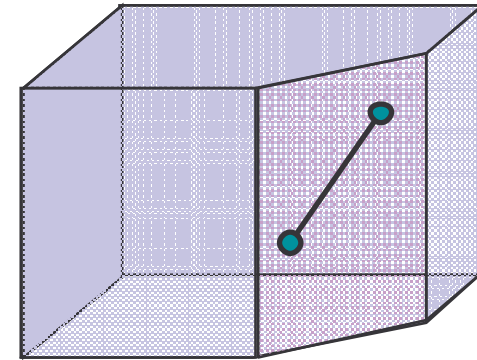
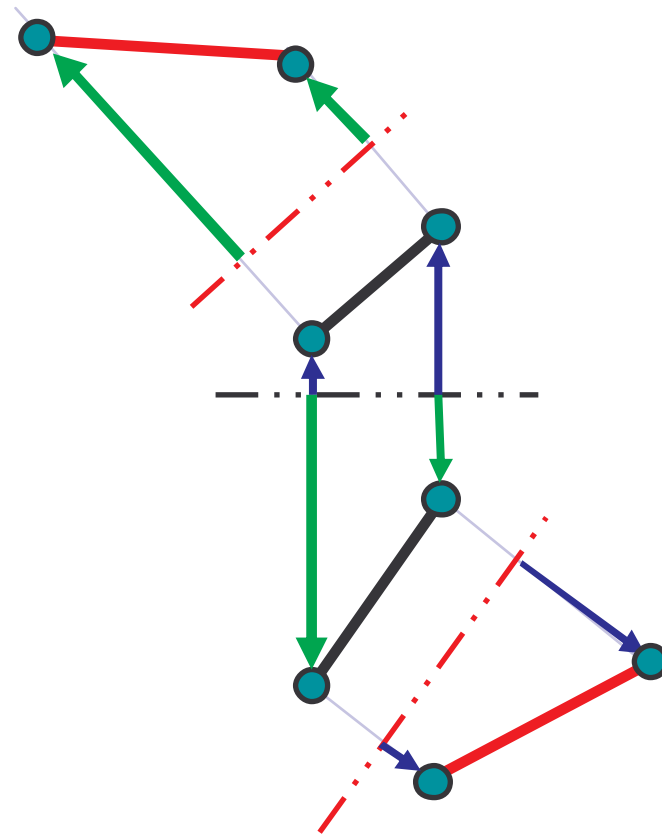
AUXILIARY PLANE METHOD



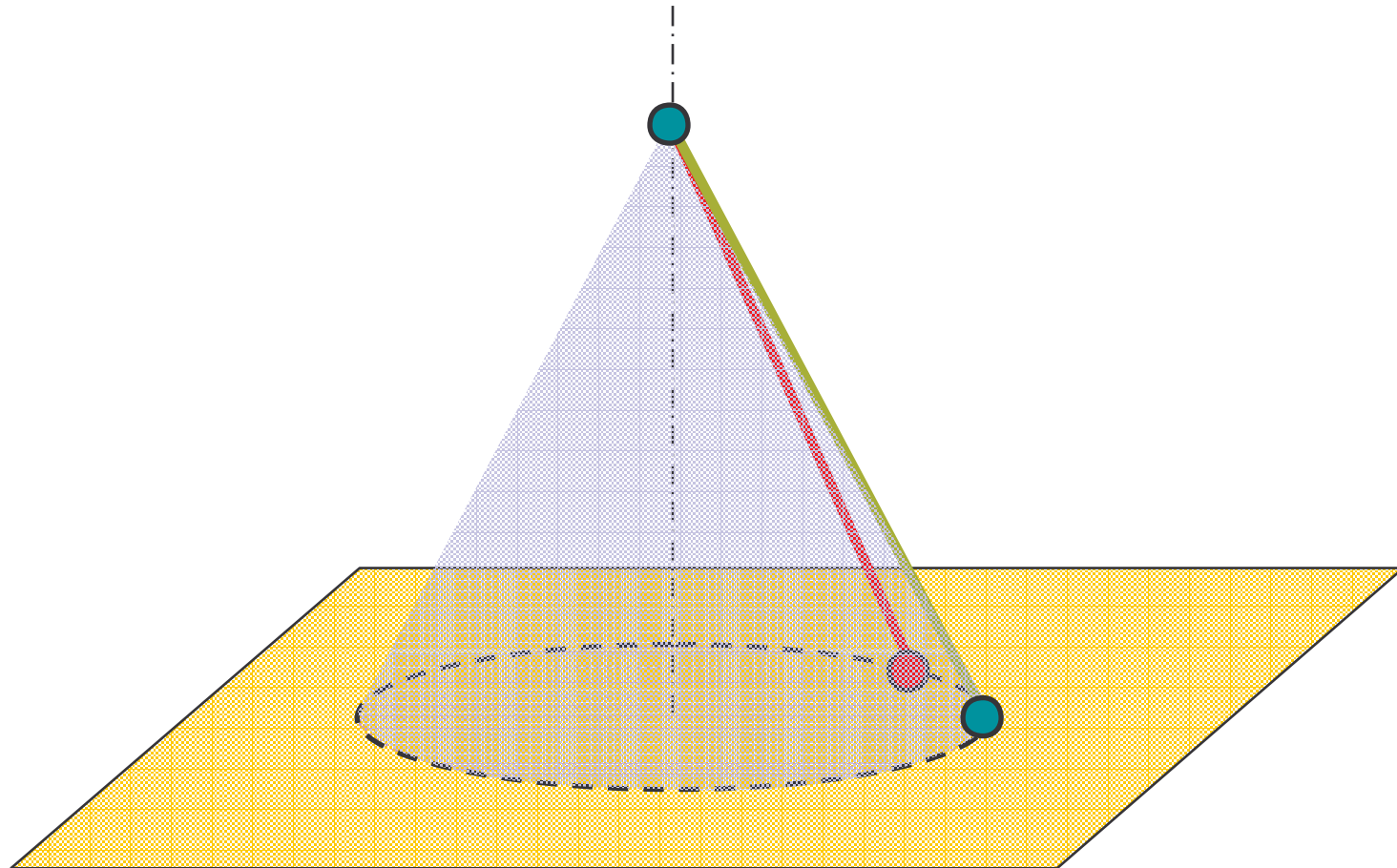
AUXILIARY PLANE METHOD



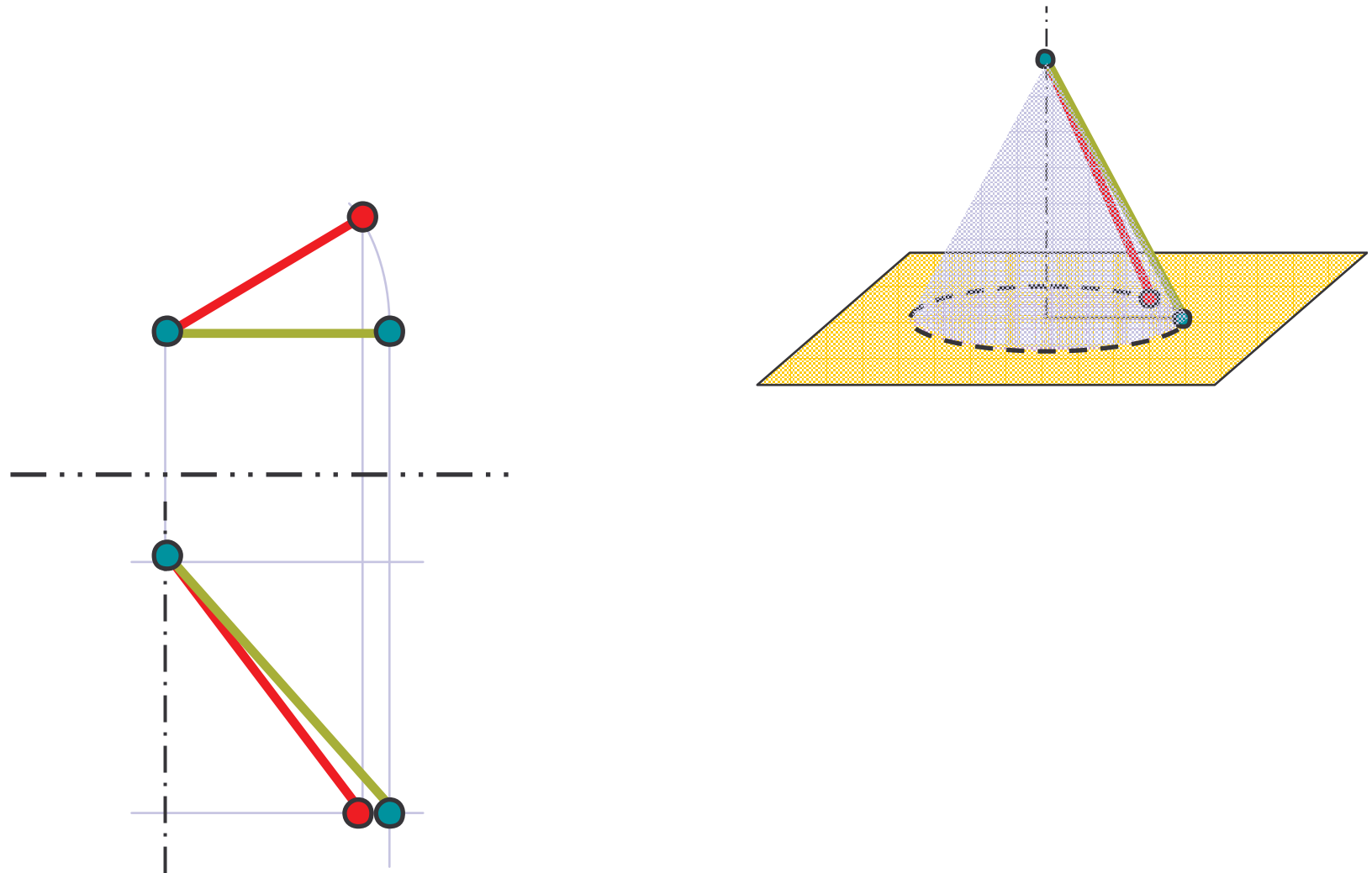
AUXILIARY PLANE METHOD



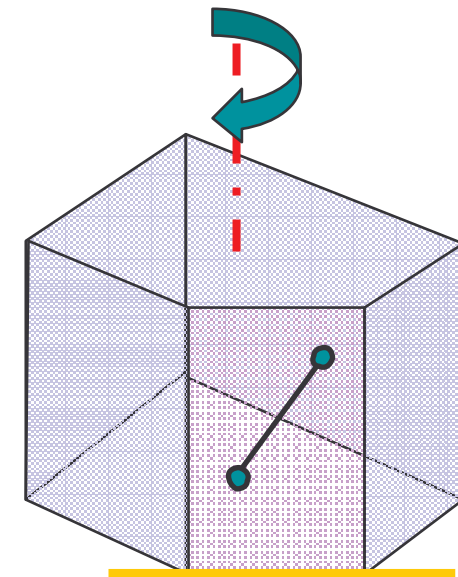
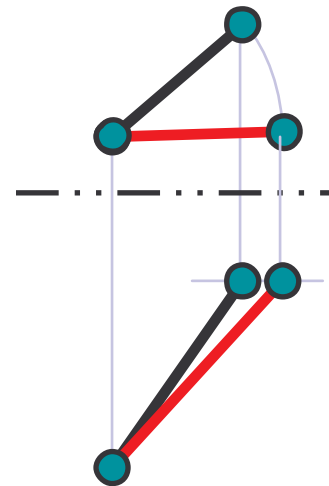
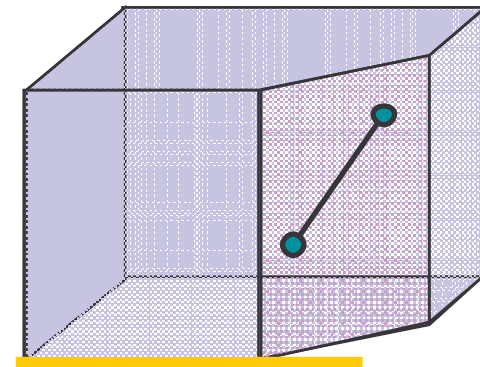
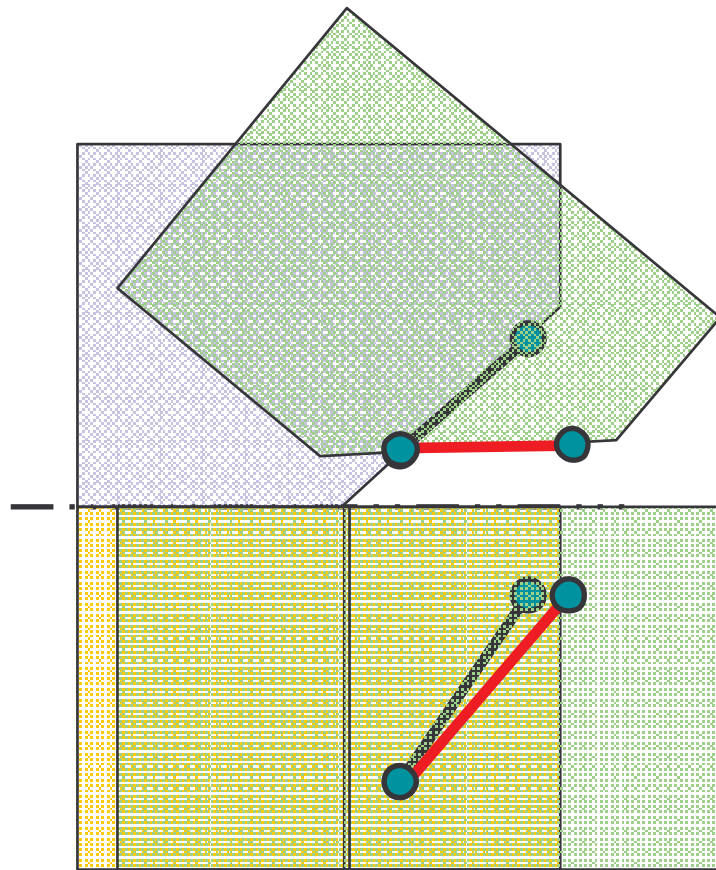
ROTATION METHOD



ROTATION METHOD



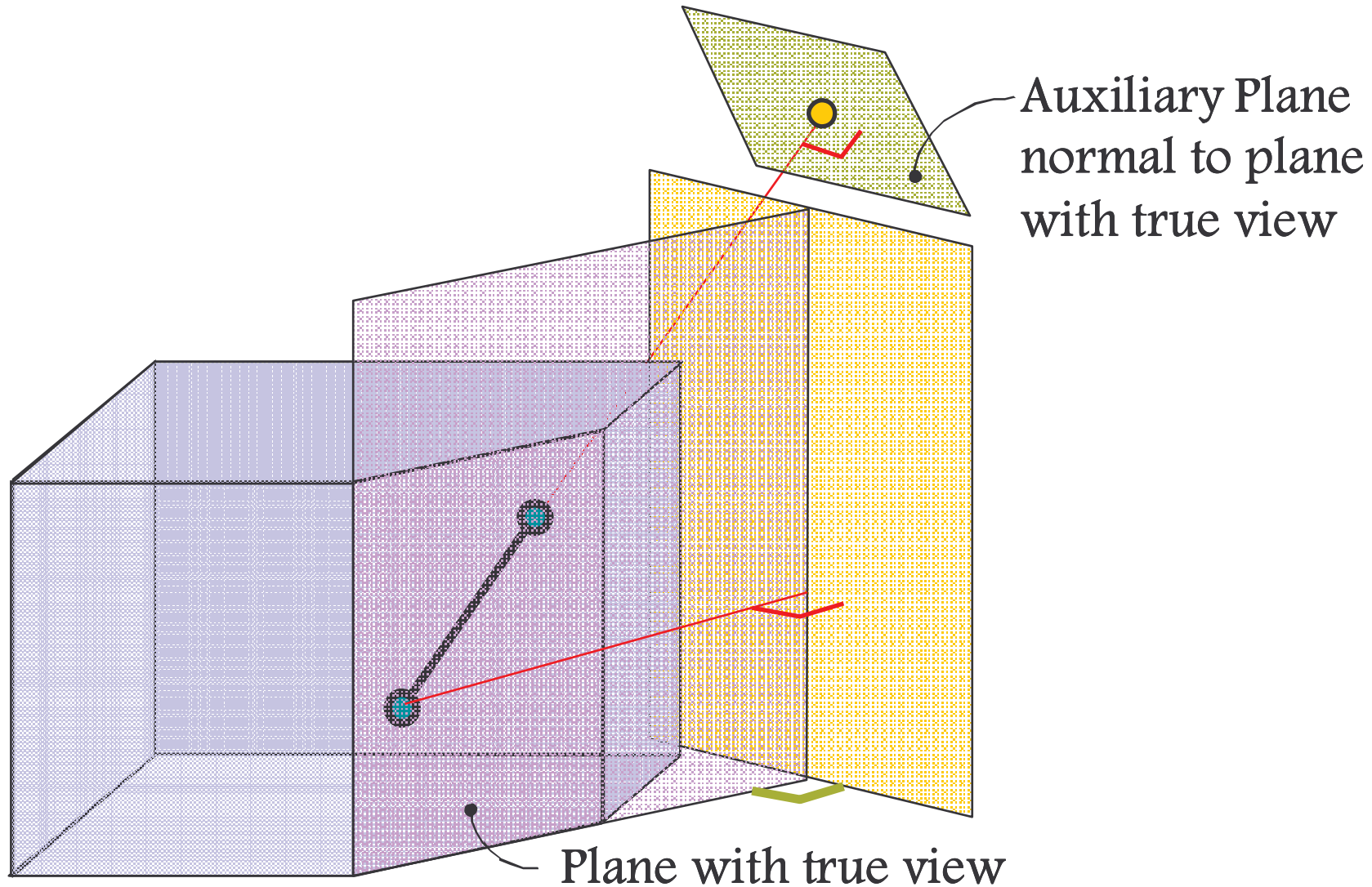
ROTATION METHOD



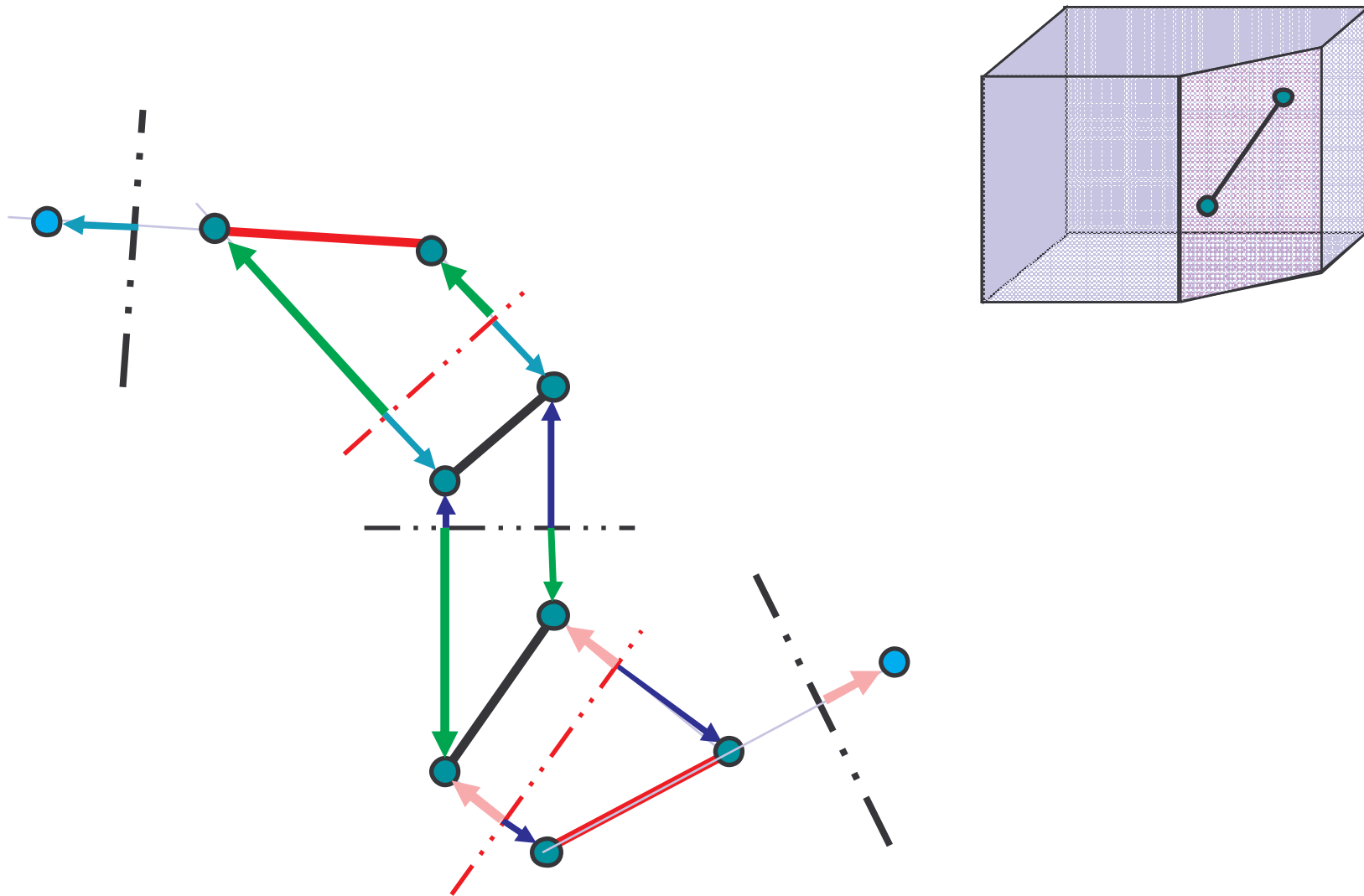


SECOND
AUXILIARY PLANE

TRANSPARENT VIEWING BOX



AUXILIARY PLANE METHOD

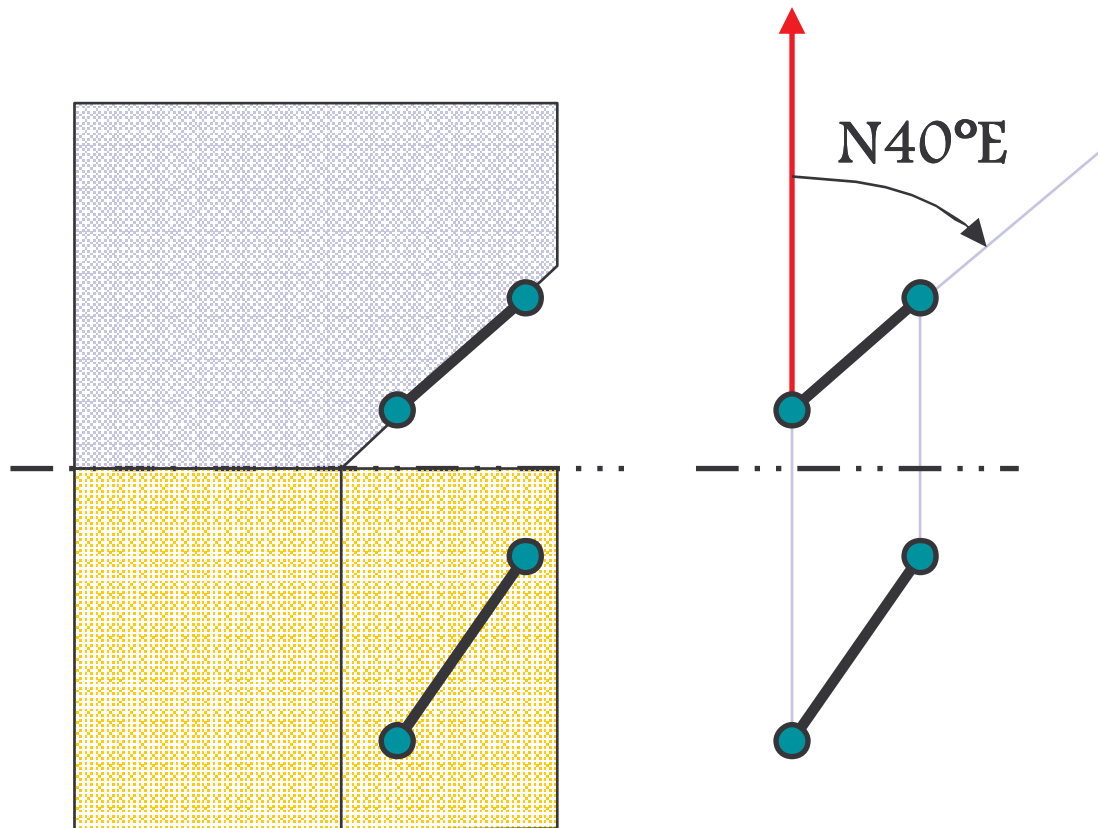
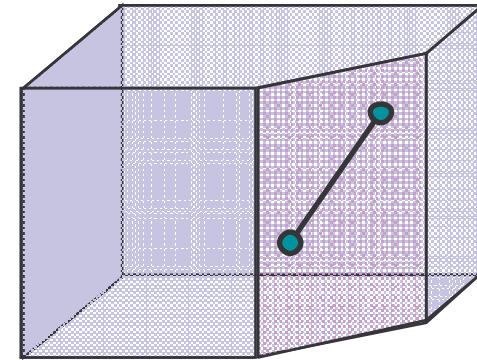




BEARING & GRADIENT OF A LINE

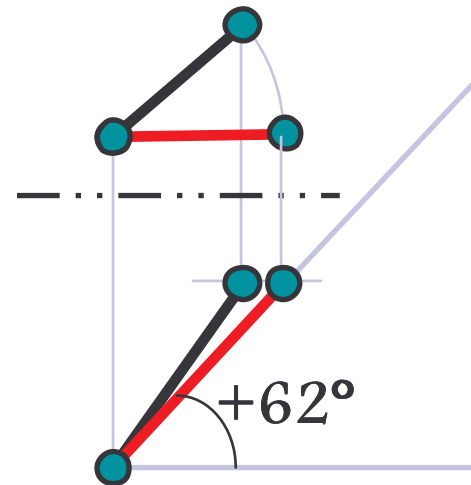
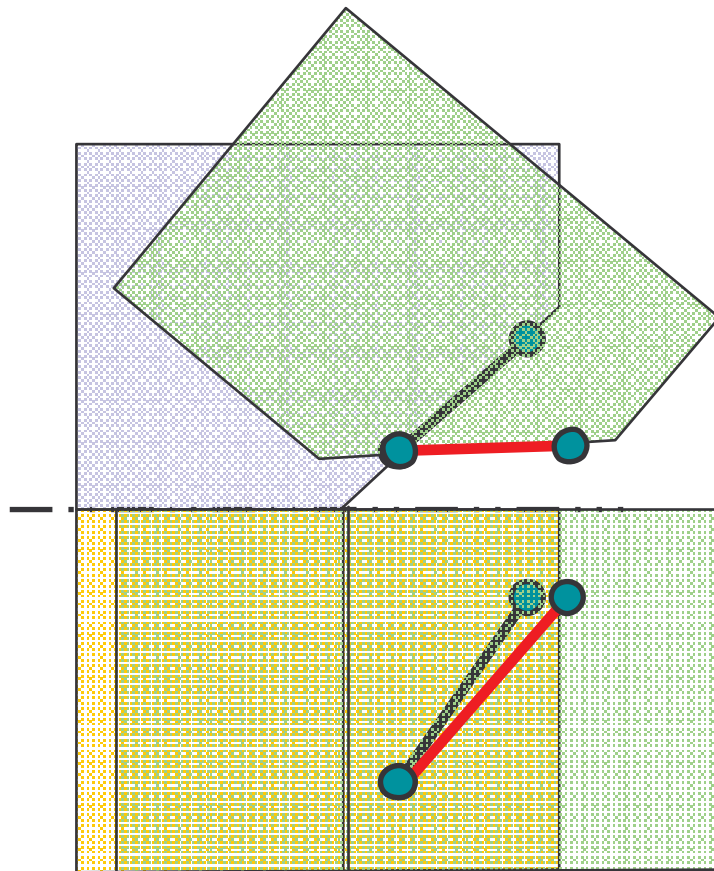
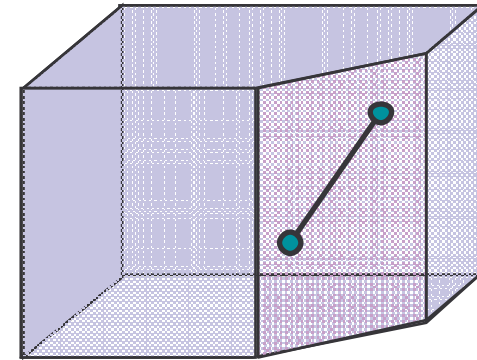
BEARING OF A LINE

- In Top View only
 - In horizontal plane



GRADIENT OF A LINE

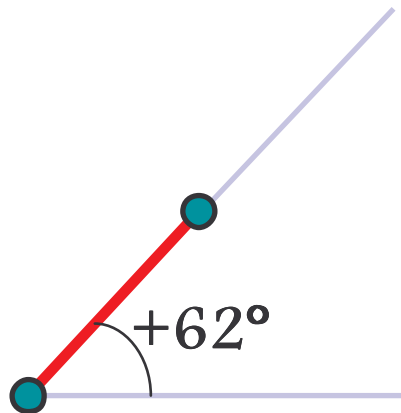
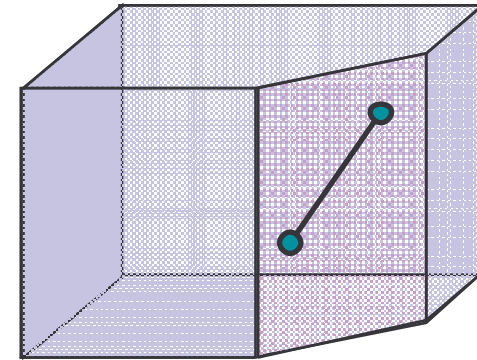
- In TRUE Front View only
 - In vertical plane



GRADIENT OF A LINE

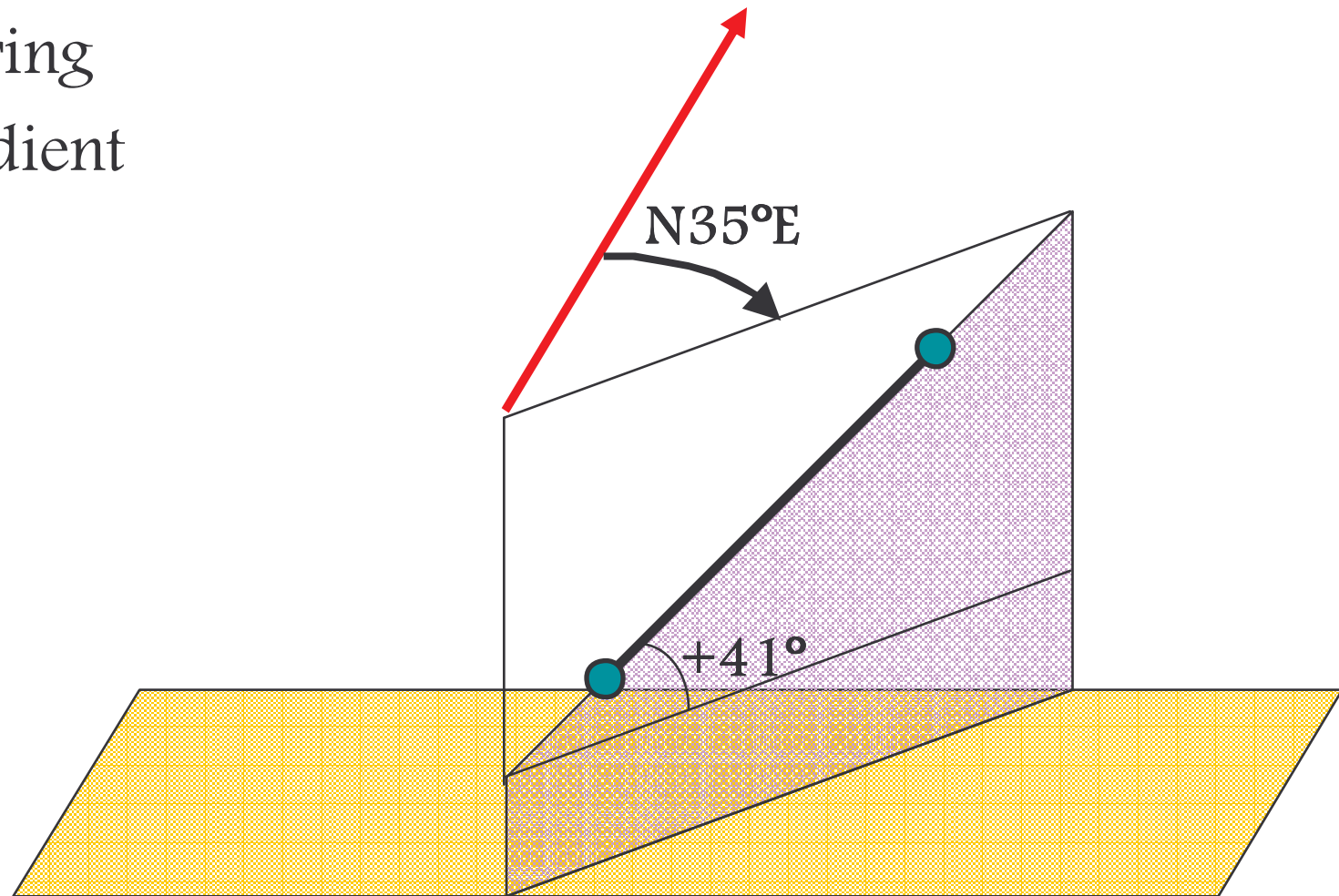
- Three forms of representation

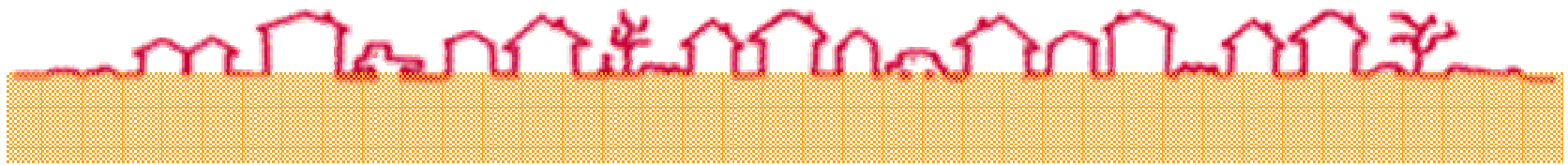
- Degrees $+62^\circ$
- Percentage 16 %
- Ratio 1 : 3



TOTAL DESCRIPTION OF A LINE

- Two quantities
 - Bearing
 - Gradient





Have a Great Day!!

