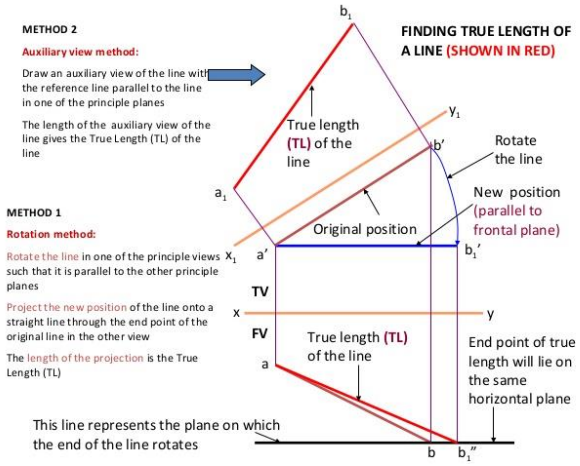
SANGAM SKM COLLEGE - NADI
YEAR 13 TD WORKSHEETS 2021

Week 2
Monday (31/05) – Friday (04/06)

Monday (31/05)

Topic: Geometry

Exercise: finding true lengths of lines



Given; principal view in third and orthographic projection

Required;

i. Draw line a-b as shown in the diagram above in the space provided below.
ii. Fine the true length of the line
iii. Find the true angle of inclination of the line to both planes
iv. Dimension the line

‘

HP

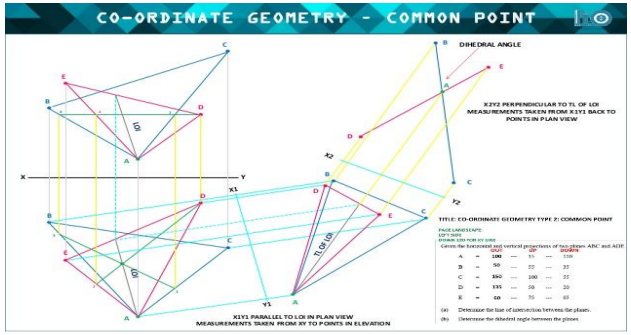
VP

Reference site:
https://www.youtube.com/watch?v=9FE5-H-BtyI

Tuesday (01/06)

Topic: Plane and Space geometry

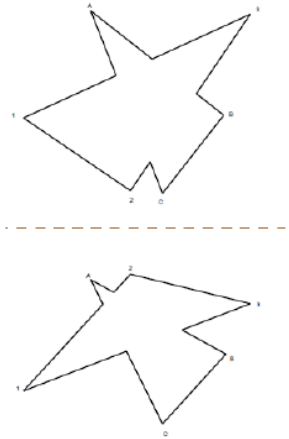
Exercise: finding dihedral angles



Given ; plan and elevation of intersecting laminas

Required

i. Find the common edge between the laminas
ii. Find the dihedral angle between laminas



Reference site:
https://www.youtube.com/watch?v=ta6tWj_1Oyw

Wednesday (02/06)

Topic: Plane and Space geometry

Exercise: name two other planes apart from oblique plane and explain how will you find the true angle of inclination of an oblique plane

i. ----------
ii. ----------

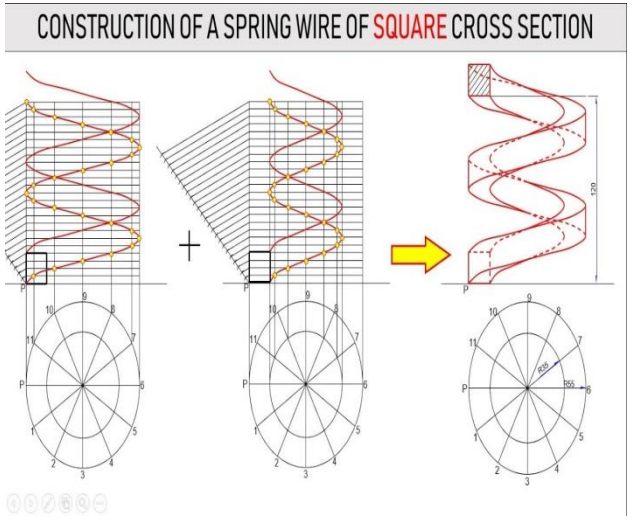
Explain ;

Reference site:
https://www.youtube.com/watch?v=FMSZwfN1ieg

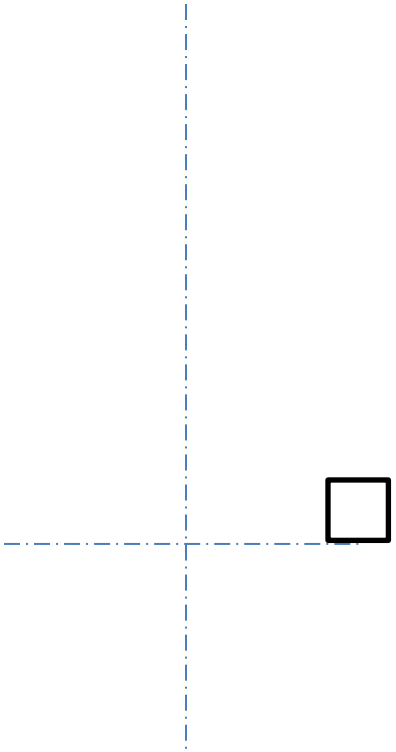
Thursday(03/06)

Topic: Geometry – Special Curves

Exercise: construction of helical spring



Given the centre line and starting point of a square helical spring, construct a left hand helical spring having the pitch of 60mm for 1 and half revolution.

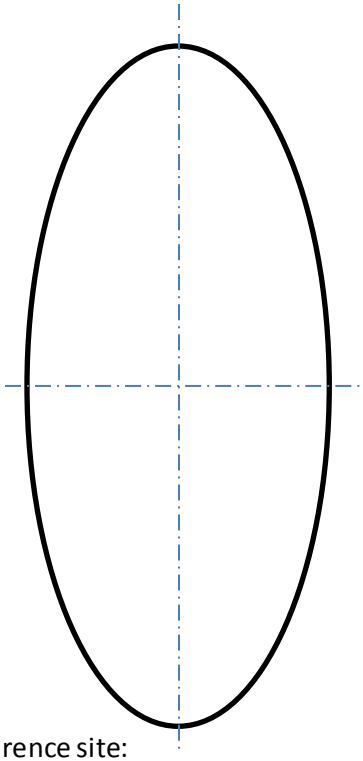


Reference site:
https://www.youtube.com/watch?v=lJ30QnhuL7o

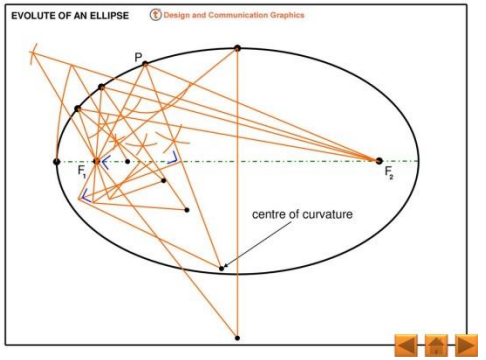
Friday(04/06)

Topic: Geometry – Special Curves

Exercise: construct an evolute of the ellipse given below



Reference site:
https://www.youtube.com/watch?v=7Dsg9UkSP7A



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Week 3
Monday (07/06) – Friday (11/06)

Monday (07/06)

Topic: Geometry – Special Curves

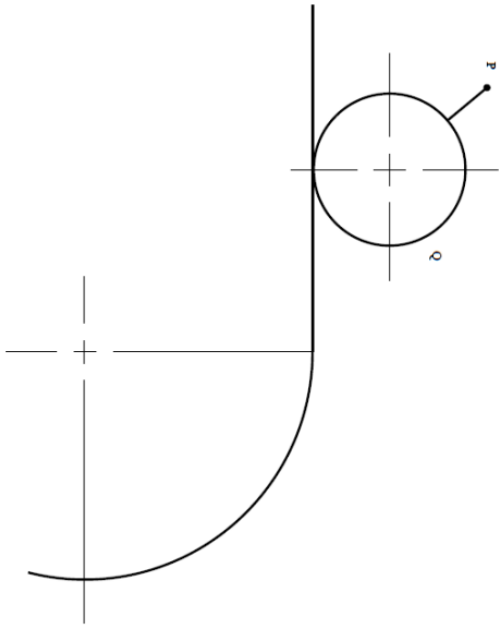
Exercise: Sketch and name nine different types of rolling wheels

Reference site:
https://www.youtube.com/watch?v=EHMZkYhOX0E

Tuesday (08/06)

Topic: Geometry – Special Curves

Exercise: draw the locus of the point of the given rolling point

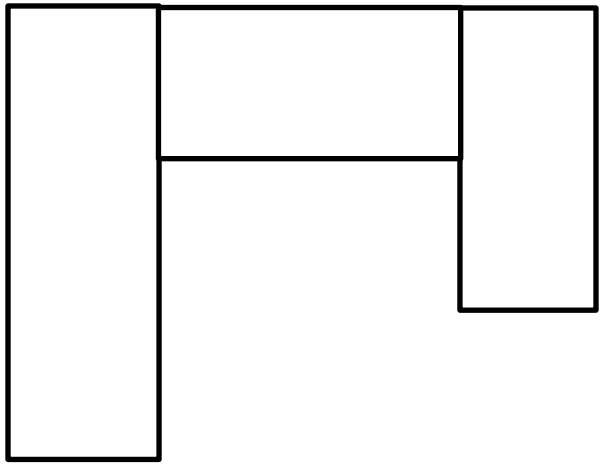


Reference site:
https://www.youtube.com/watch?v=zAPhrIasdbM

Wednesday (09/06)

Topic: Geometry- Centroid

Exercise: find the centroid of the given shape using funicular polygon method



Reference site:
https://holooly.com/solutions/determine-the-centroid-of-the-lamina-shown-in-fig-7-24/

Thursday(10/06)

Topic: Geometry - CAMS

Exercise: sketch and name different types of cam graphs and followers

Reference site:
https://www.youtube.com/watch?v=Ibs10c9FX0M
https://www.youtube.com/watch?v=Hct6YW_8NYc

Friday(11/06)

Topic: Geometry - CAMS

Exercise: draw the cam graph and profile of an offset roller follower, given the following details:

Graph:

0 – 90 SHM lift of 30 mm

90 – 180 UV fall of 15 mm

180 -270 DWELL

270 – 360 UAR fall of 15mm

Use your own scale for displacement graph

Reference site:
https://www.youtube.com/watch?v=XiWXcKRwtqc