



AL-Mustaqbal University

College of Engineering and Technologies

Building and Construction Techniques Engineering Department

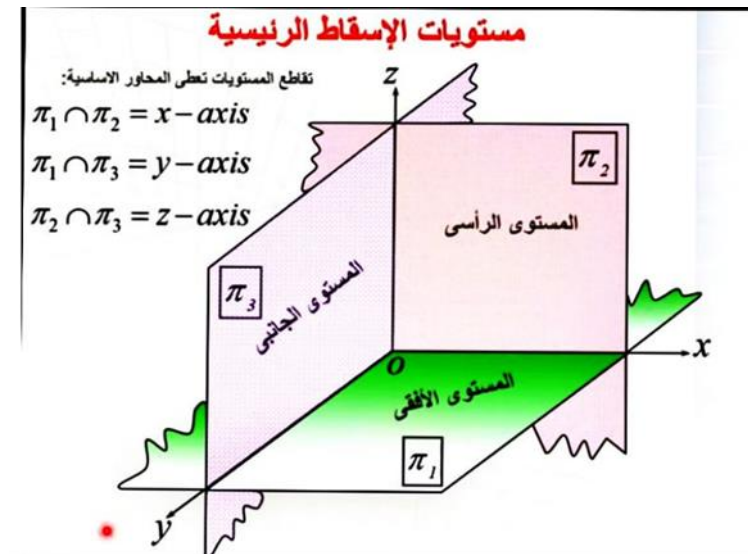


DESCRIPTIVE GEOMETRY
FIRST CLASS

LECTURE NO. 1
2024-2025

ASST. LECTURER
Fatima Muslim

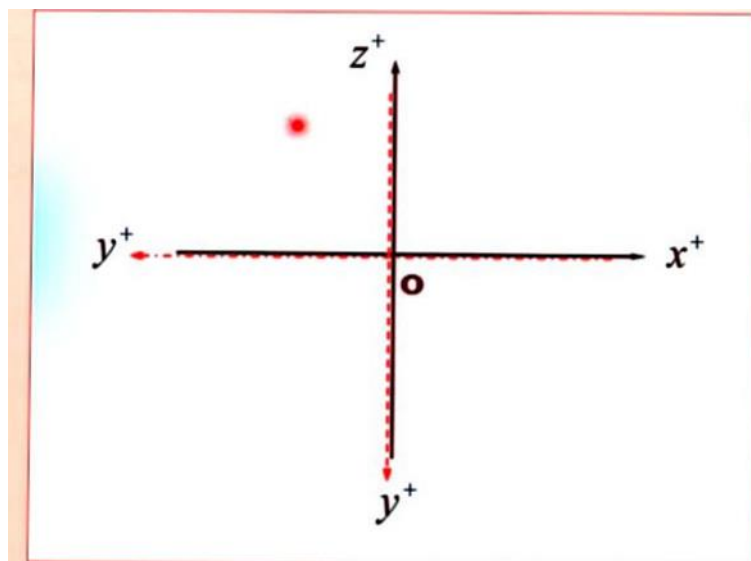
Representation of Point



$\pi_1 \rightarrow xy \rightarrow \text{Horizontal Plane (HP)}$

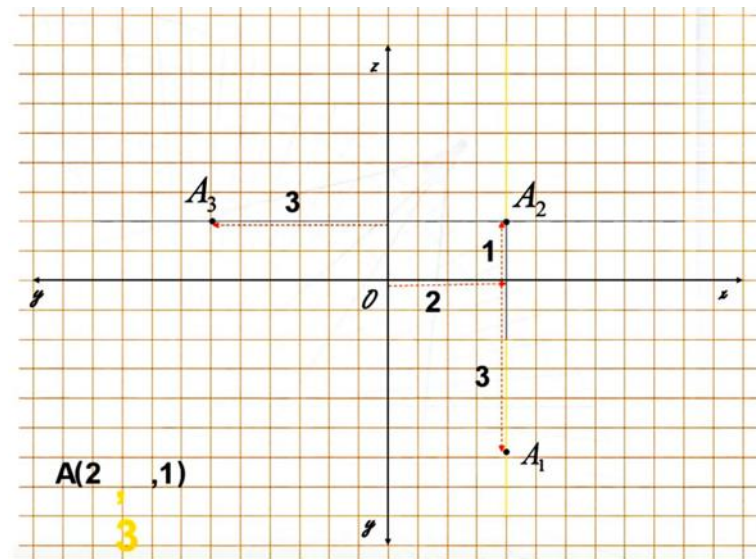
$\pi_2 \rightarrow xz \rightarrow \text{Vertical Plane (VP)}$

$\pi_3 \rightarrow yz \rightarrow \text{Side or Profile Plane (SP)}$

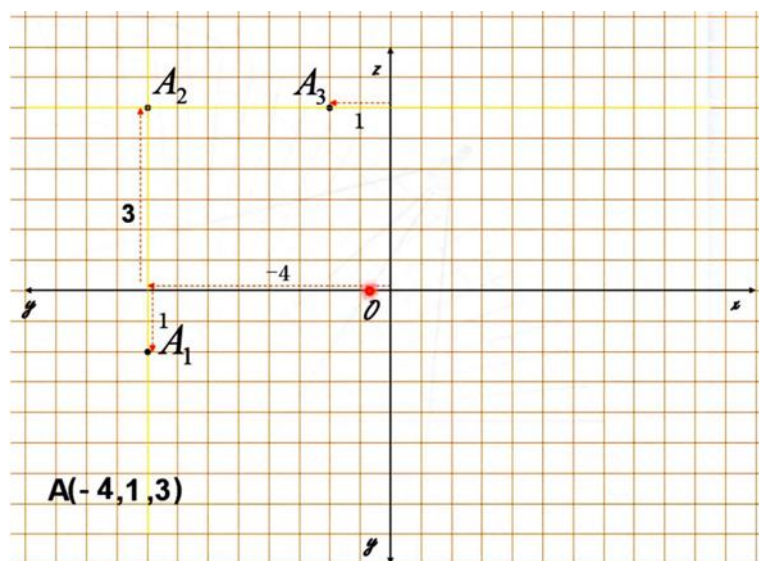




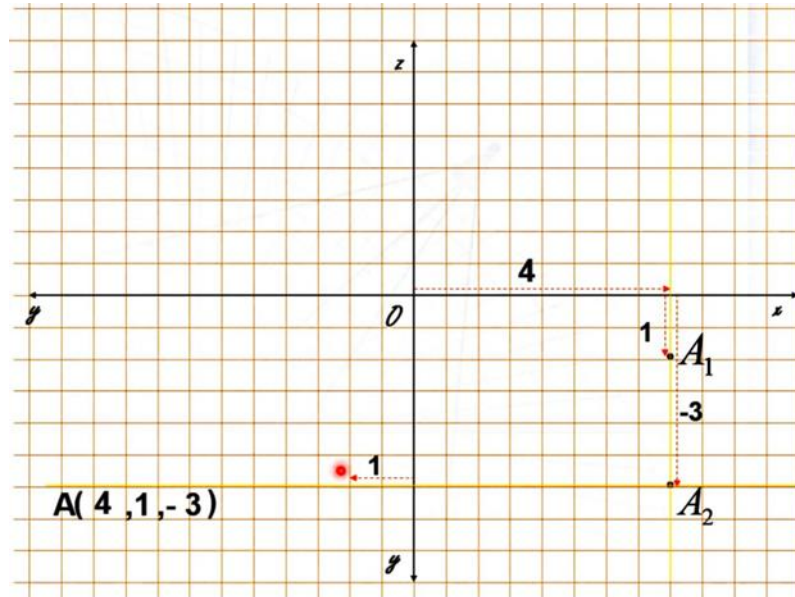
Example1: represent a point A (2,3,1)



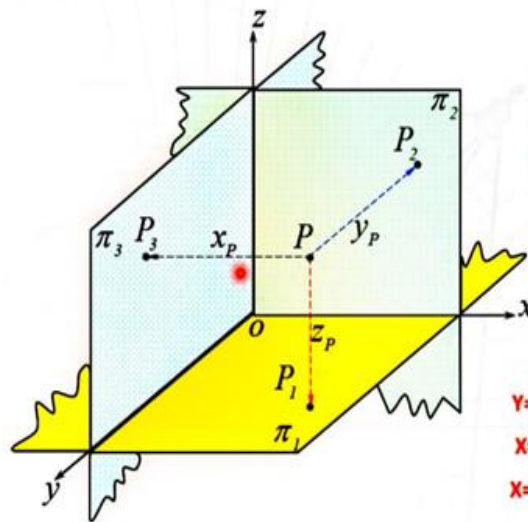
Example2: represent a point A (-4,1,3)



Example3: represent a point A (4,1, -3)



الحالات الخاصة للنقطة



نقطة تقع في المستويات

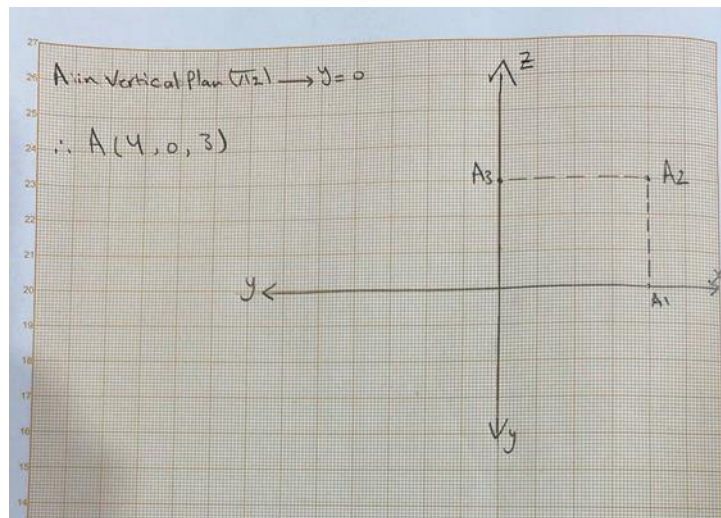
- نقطة تقع في π_1 معناها $Z=0$
- نقطة تقع في π_2 معناها $Y=0$
- نقطة تقع في π_3 معناها $X=0$

نقطة تقع على المحاور

- نقطة تقع على محور X معناها $Y=0, Z=0$
- نقطة تقع على محور Y معناها $X=0, Z=0$
- نقطة تقع على محور Z معناها $X=0, Y=0$



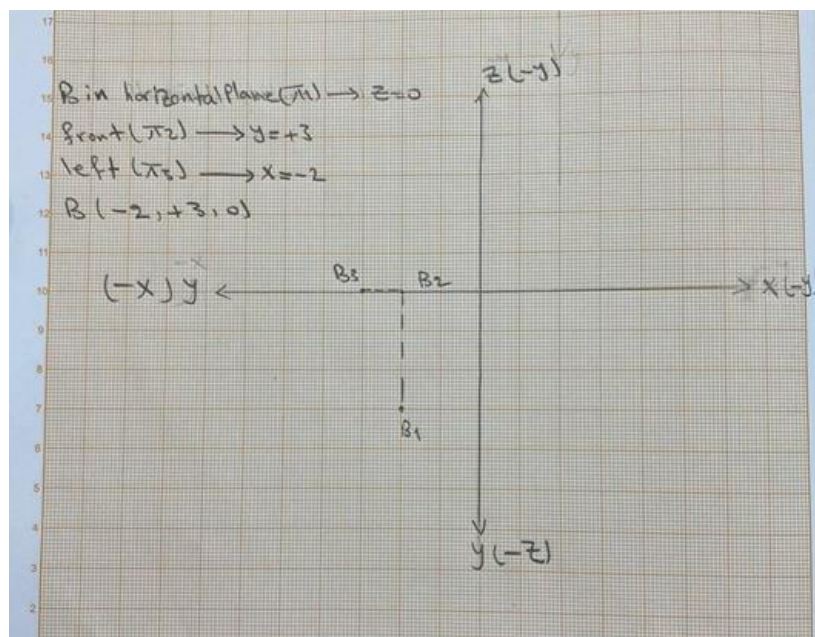
Example4: represent a point A (4,3) whereas a point in vertical plan

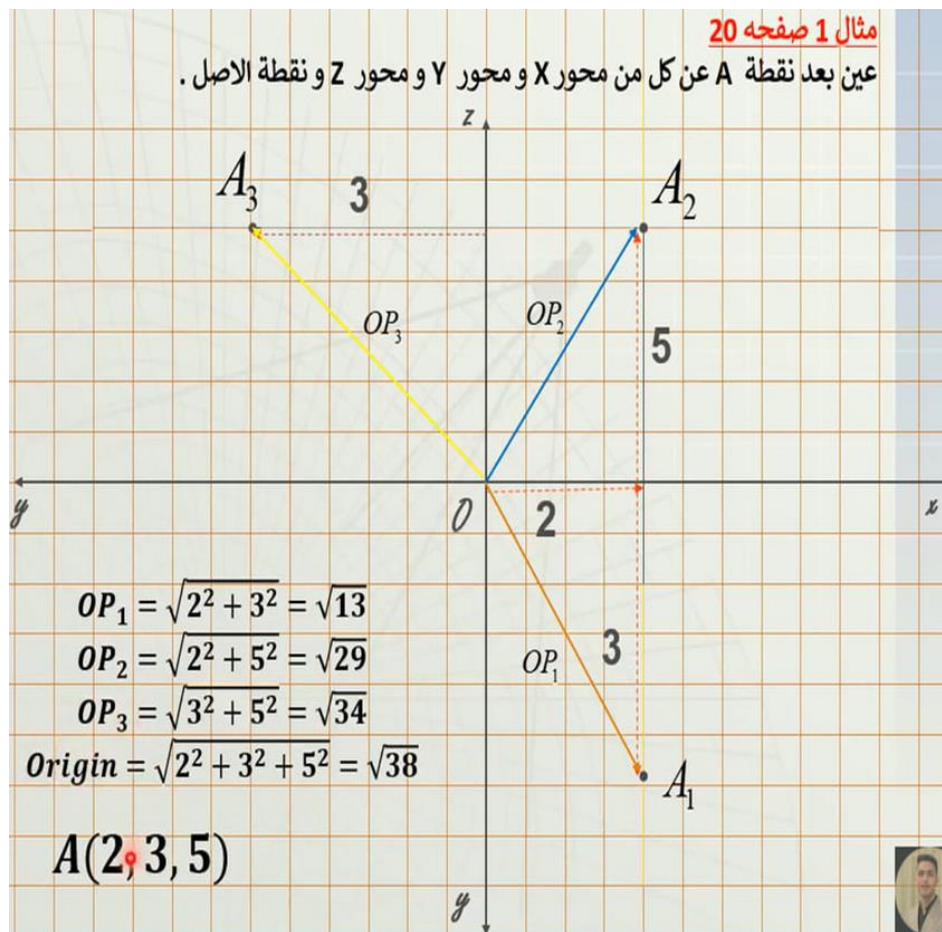
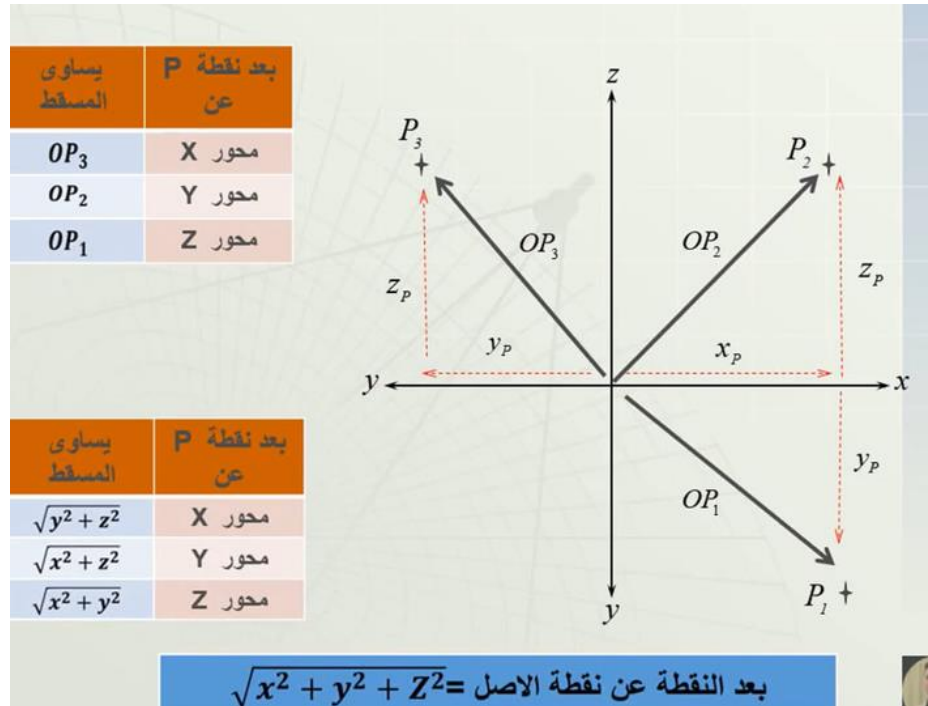


(front, above, right) $\rightarrow +$

(behind, under, left) $\rightarrow -$

Example5: represent a point B Which is located in the horizontal plane (π_1) and front of π_2 (vertical plane) with a distance 3cm and left side plane (π_3) with a distance 2cm







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أوجد المساقط الثلاثة للمثلث ABC حيث $A(2,4,1)$ & $B(-1,3,-2)$ & $C(4,3,0)$

