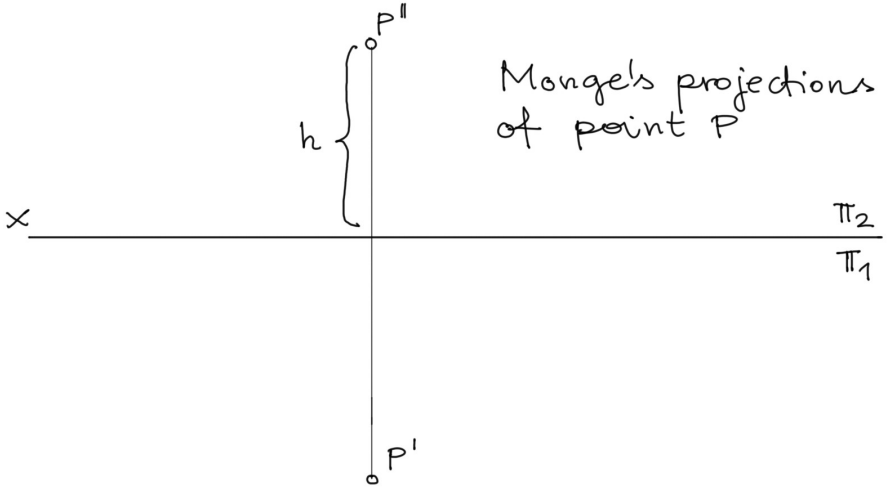
MARKED PROJECTION – INTRODUCTION

Lecture 6
14 Nov 2022

1. Point



Monge's projections of point P

→

marked (map, topographic) projection of point P

u – unit

$P'_{(h)}$

Examples:

$P'_{(2)}$ – point P is located at 2u above π

$Q'_{(-2.5)}$ – Q 2.5u below π

$4'$ – a point located at 4u above π

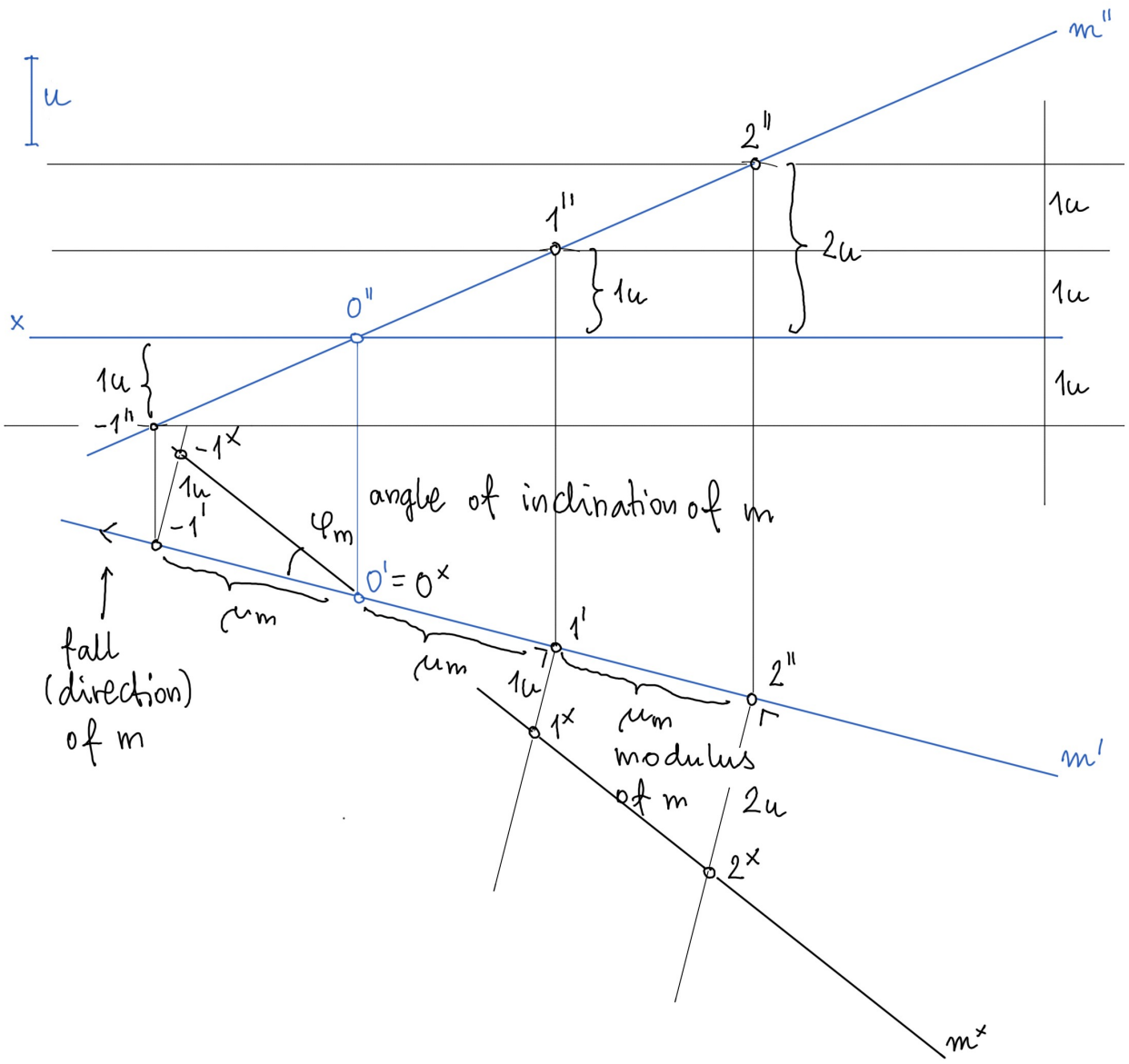
$\pi_1 \equiv \pi$

π_2 – does not exist

h – mark of point P
characteristic of P
cote of P

$P \mapsto P'_{(h)}$

2. Line



Given:

$m \longmapsto (m', m'')$, $0 \ni m$

Problem:

- Find the direction of m
- Find the modulus of m
- Find the angle of inclination and the slope of m

Solution:

- Use the vertical Monge's projection.

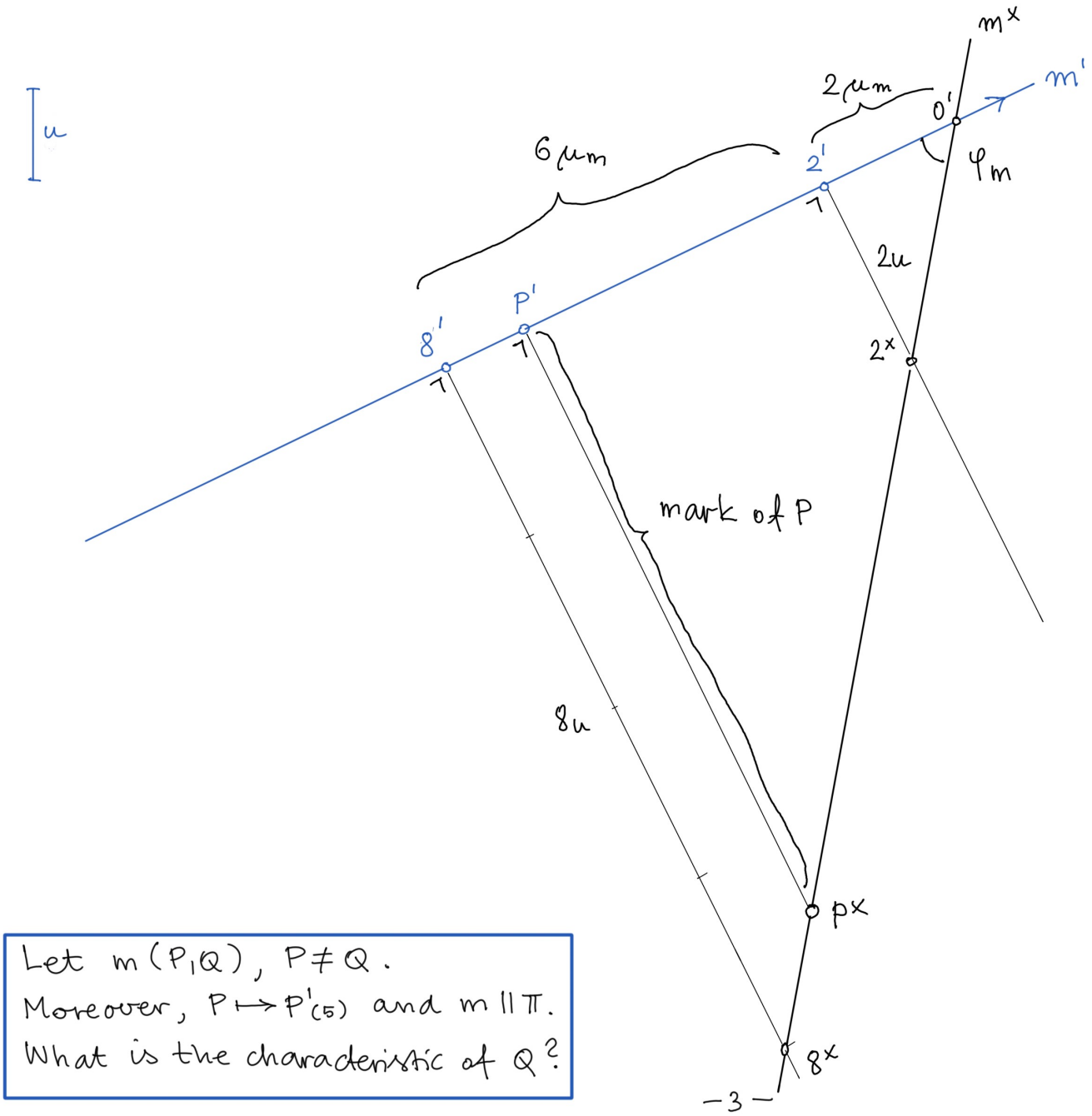
$n_m = tg\,\varphi_m$

n_m – slope of m

$n_m \cdot 100\ [\%]$

$\mu_m = \frac{1}{n_m}$

Find n_m graphically ?



Given:

m (2,8), P ∈ m

Problem:

- Find the inclination angle of m.
- Find the mark of P.

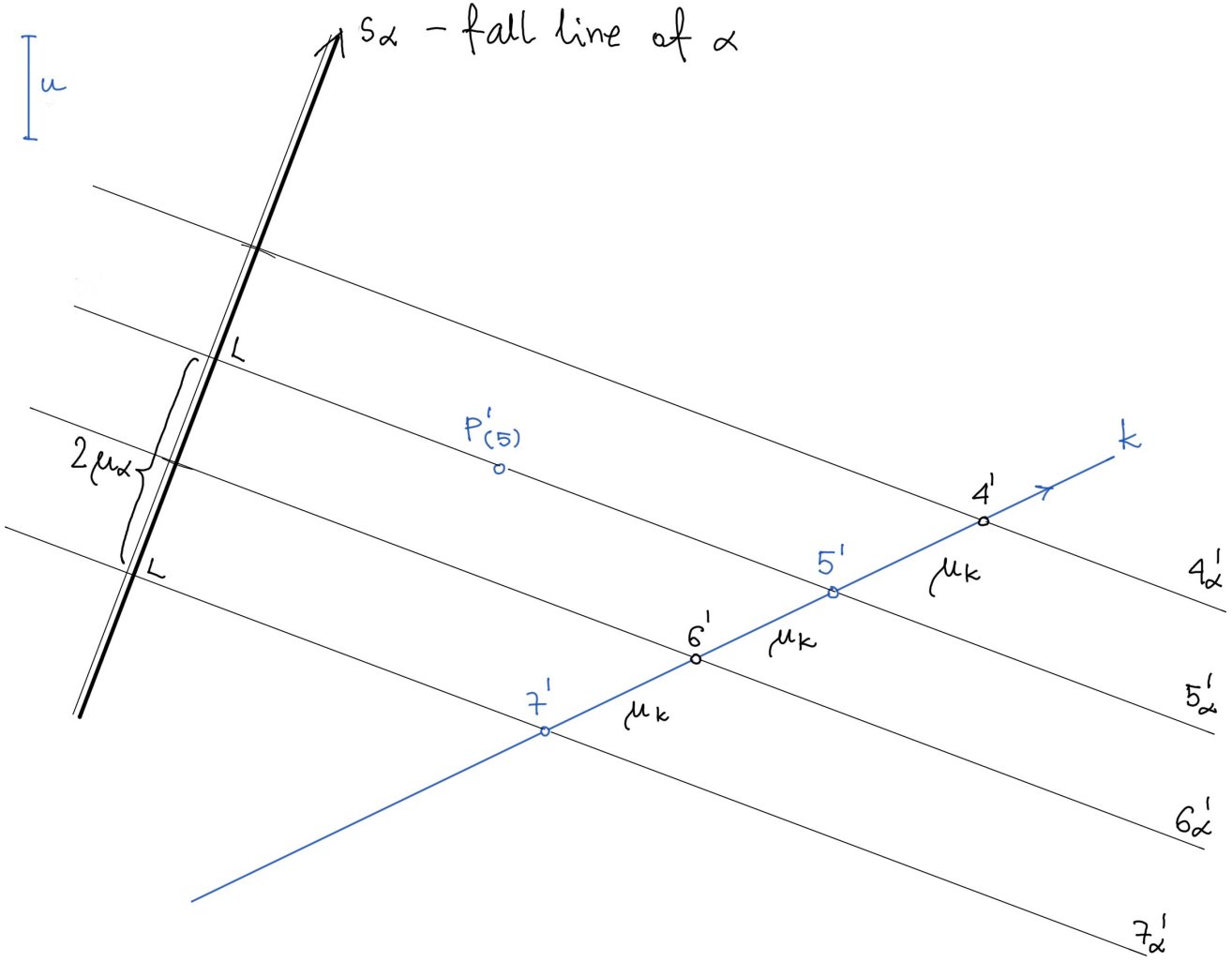
Solution:

- Inclination angle is found through rabatment

2.

Let m (P,Q), P ≠ Q.
Moreover, P ⟼ P'(5) and m ∥ π.
What is the characteristic of Q?

3. Plane



Given:

$\alpha(k,P)$, $k \not\equiv P$

$\{5,7\} \not\equiv k$

Problem:

- Find the fall line of α
- Find the modulus of α
- Find the slope of α
- Gradate α

Solution:

- 5_α - level line on α

  $5_\alpha \not\equiv \alpha$, $5_\alpha \parallel \pi$

$$\left.\begin{matrix} \varphi_\alpha \\ n_\alpha \\ \mu_\alpha \end{matrix}\right\} = \left\{\begin{matrix} \varphi_{s_\alpha} \\ n_{s_\alpha} \\ \mu_{s_\alpha} \end{matrix}\right.$$