



SNS COLLEGE OF TECHNOLOGY

**An Autonomous Institution
Coimbatore - 35**

Accredited by NBA – AICTE and Accredited by NACC – UGC with 'A+ Grade
Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

DEPARTMENT OF AGRICULTURE ENGINEERING

19AGT201 – SURVEYING AND LEVELING

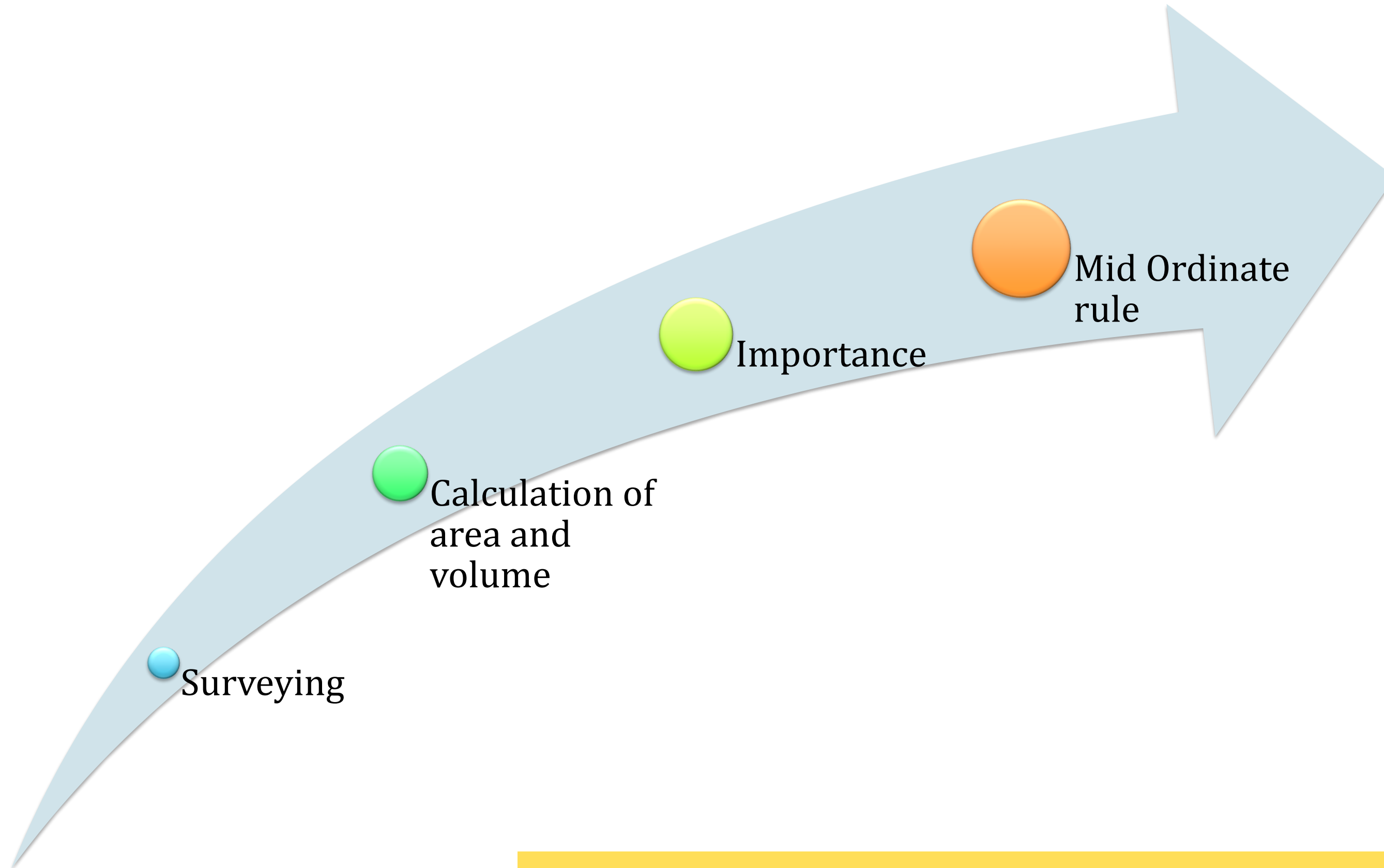
II – YEAR III SEMESTER

UNIT 3 – COMPUTATION OF AREA AND VOLUME

TOPIC 3 – AVERAGE ORDINATE RULE



Last Class Review





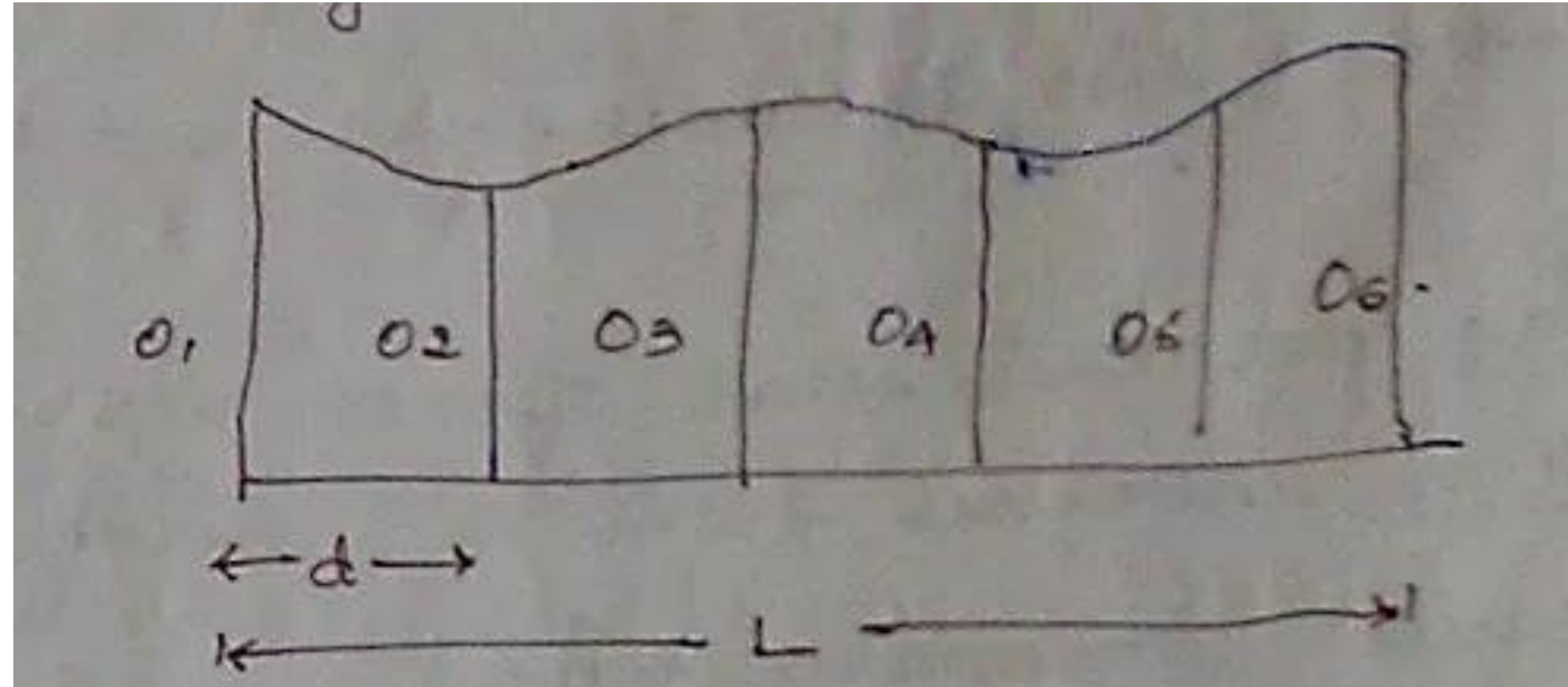
States!!!

- ❖ The rule states that (to the average of all the ordinates taken at each of the division of equal length multiplies by baseline length divided by number of ordinates).





Average Ordinate Rule





Average Ordinate Rule

- ❖ $O_1, O_2, O_3, O_4 \dots$ On ordinate taken at each of division.
- ❖ L = length of baseline
- ❖ n = number of equal parts (the baseline divided)
- ❖ d = common distance





Average Ordinate Rule



$$\text{Area} = [(O_1 + O_2 + O_3 + \dots + O_n) * L] / (n + 1)$$

$$\text{Area} = \frac{\text{sum of the ordinates} * \text{length of base line}}{\text{no of ordinates}}$$



Assessment



- **State Mid ordinate rule**





Problem



The following offsets were taken from a chain line to an irregular boundary line at an interval of 10 m:

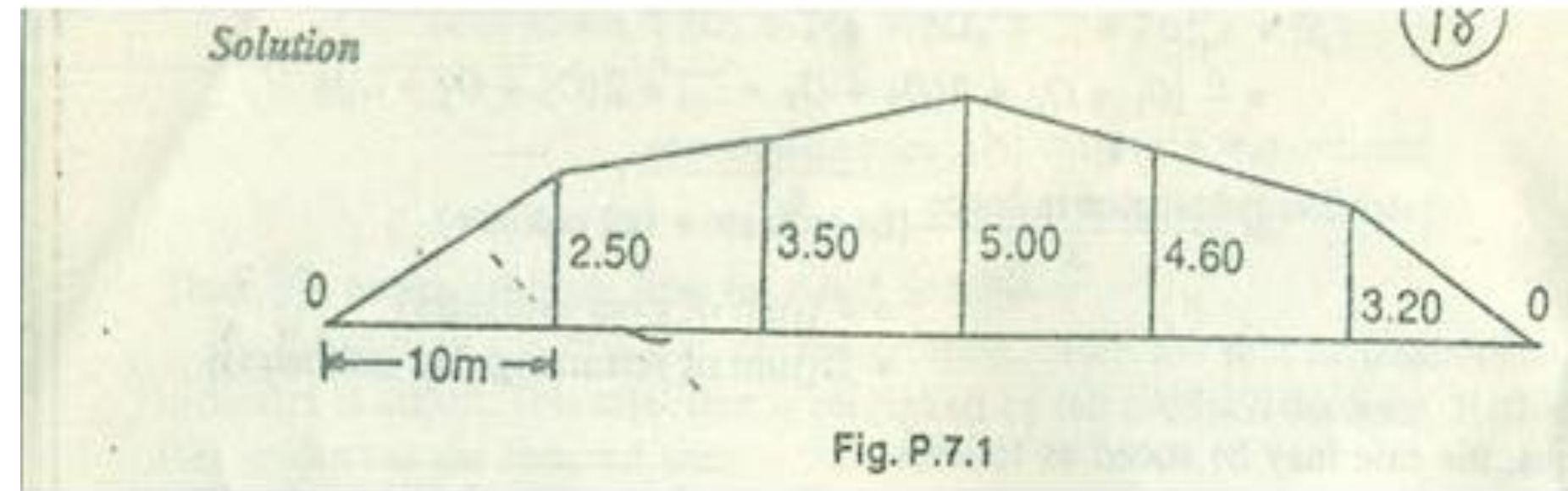
0, 2.50, 3.50, 5.00, 4.60, 3.20, 0 m

Compute the area between the chain line, the irregular boundary line and the end of offsets by:

a) the average –ordinate rule



Problem



Here $d=10$ m and $n=6$ (no of devices)

Base length= $10*6=60$ m

Number of ordinates= 7

Required area

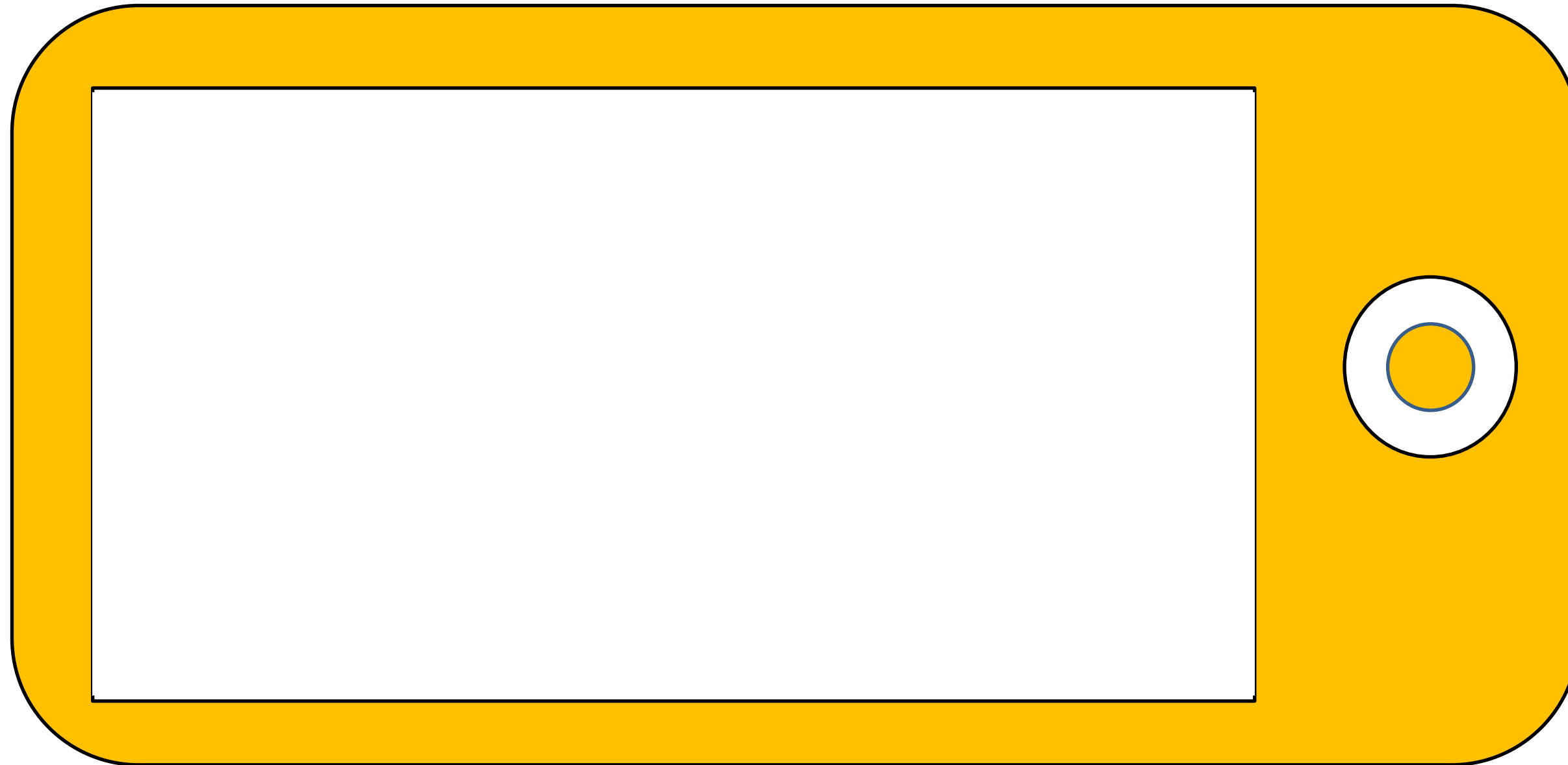
$$=60((2.50+3.50+5.00+4.60+3.20+0)/7)$$

$$= 60*18.8/7$$

$$=161.14\text{m}^2$$



Reference Videos





See You at Next Class!!!!