ASSIGNMENT-2

12002040701067
Humaid

Q1. An area of 144 cm^2 on a map represents an area of 36 km^2 on field. Find the R.F of scale for this map & draw a diagonal scale to show kilometers, hectometers & decameters & to measure up to 10 km. Indicate on the scale distances of 1) 7 km, 5 hectometers & 6 decameters.

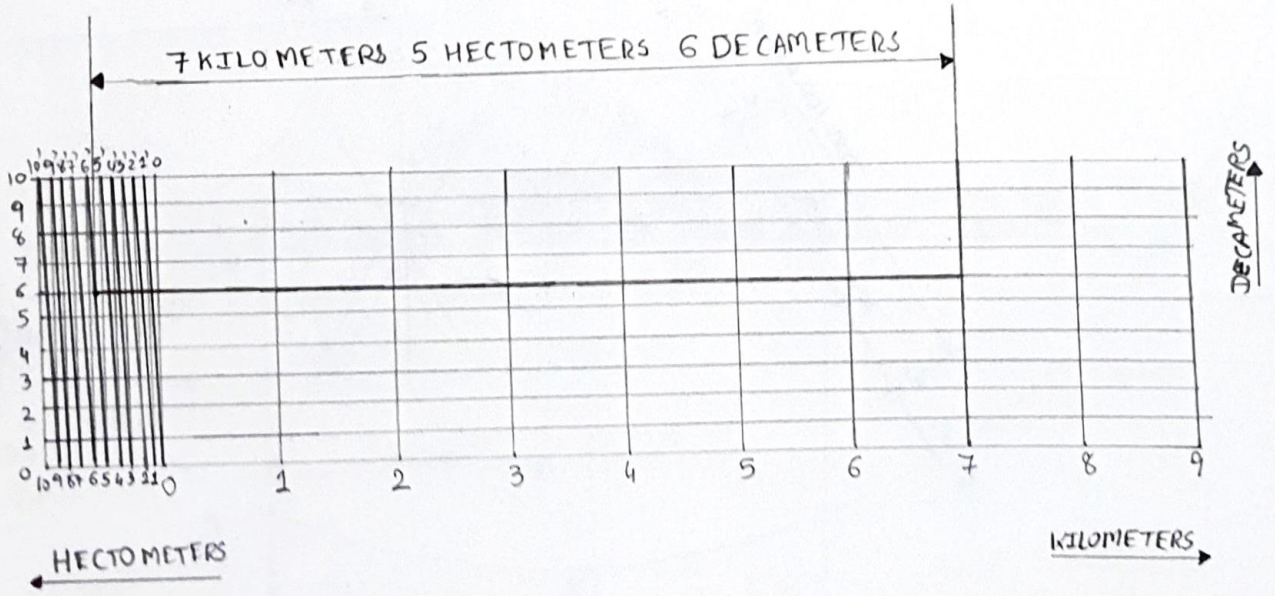
$$R.F = \sqrt{\frac{144\ cm^2}{36\ km^2}} = \frac{12\ cm}{6\ km}$$

$$= \frac{2}{10^5}\ cm$$

$$L.O.S = R.F \times Max.\ length$$

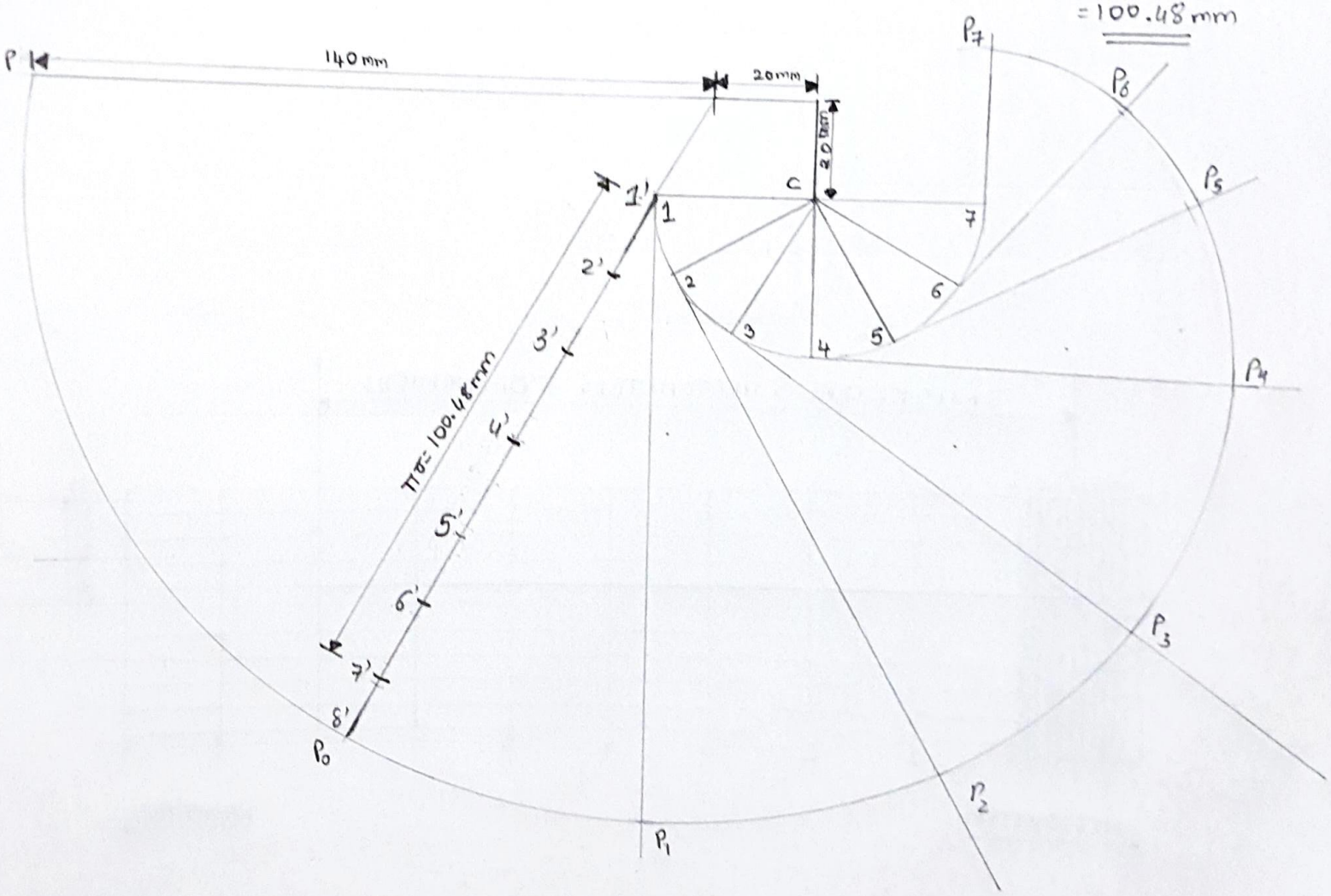
$$= \frac{2}{10^5} \times 10 \times 10^5$$

$$= 20\ cm.$$



Q2. A thin semi-circular plate with C as centre & radius equal to 32mm is fixed. OP is an elastic rope of 140mm horizontal length. End O of the rope is fixed. The End O is 20mm above & on left of C. The rope is wound in anticlockwise direction around the circumference of the plate. Draw the locus of free end P of the rope.

$\pi r = 3.14 \times 32$
$= 100.48\ mm$



Q3 Show by means of a drawing that when the diameter of the directing circle is twice that of the generating circle, the hypocycloid is a straight line. Take diameter of generating circle equal to 50 mm.