

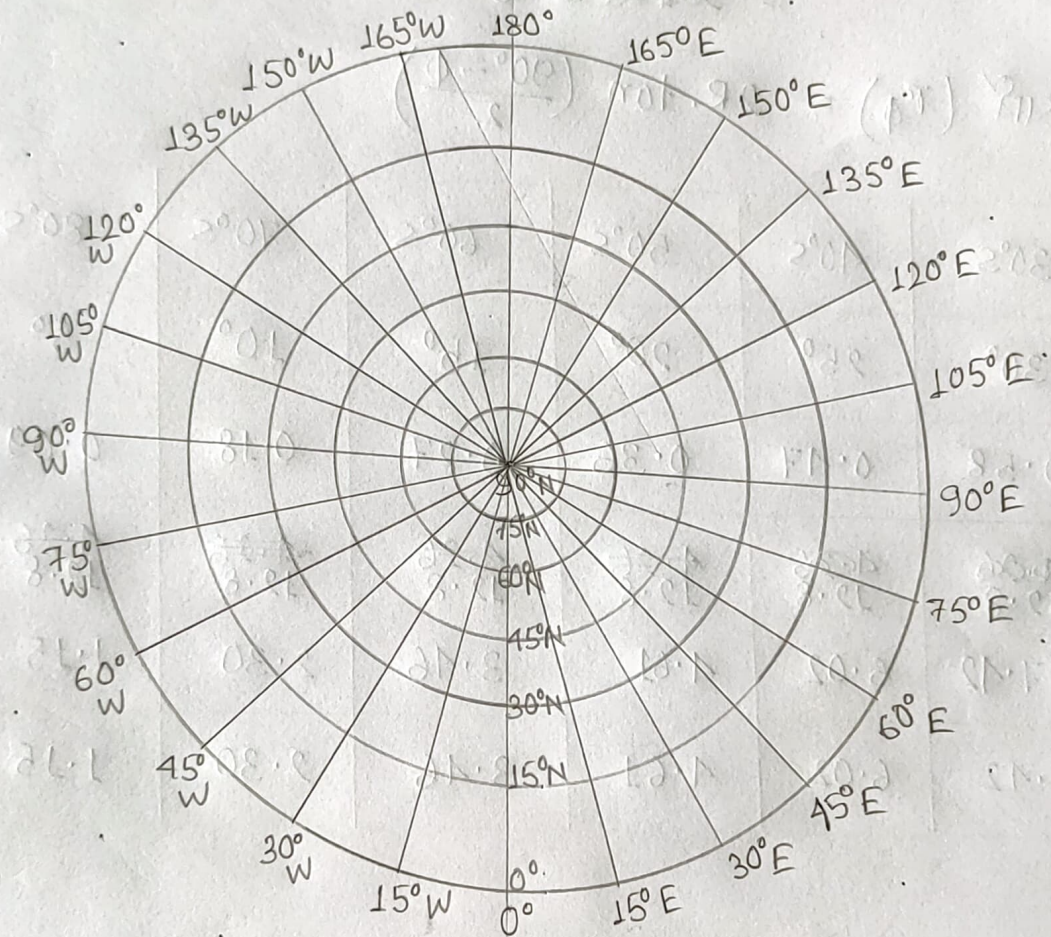
Draw the graticules of polar zenithal stereographic projection for the map of Northern Hemisphere at an interval of 15° on a scale of $1: 225 \times 10^6$

$$\begin{aligned} \text{সূত্রী-ভূগোলকের ব্যাসার্ধ} (R) &= \text{পৃথিবীর প্রকৃত ব্যাসার্ধ} \times \text{R.F.} \\ &= 640,000,000 \text{ cm} \times \frac{1}{225,000,000} \\ &= 2.8444 \text{ cm} = 2.84 \text{ cm} \end{aligned}$$

$$\text{অক্ষরেখাসমূহের ব্যাসার্ধ} (r_\phi) = 2R \cdot \tan\left(\frac{90^\circ - \phi}{2}\right) \quad [\text{যেখানে } \phi = \text{অক্ষরেখার মান}]$$

r_ϕ \ ϕ	0°	15°N	30°N	45°N	60°N	75°N	90°N
$\left(\frac{90^\circ - \phi}{2}\right)$	45°	$37^\circ 30'$	30°	$22^\circ 30'$	15°	$7^\circ 30'$	0°
$\tan\left(\frac{90^\circ - \phi}{2}\right)$	1	0.767	0.577	0.414	0.268	0.132	0.000
$2R \text{ in cm}$	5.68	5.68	5.68	5.68	5.68	5.68	5.68
$2R \cdot \tan\left(\frac{90^\circ - \phi}{2}\right)$	5.68	4.36	3.28	2.35	1.52	0.75	0
$r_\phi \text{ in cm}$	5.68	4.36	3.28	2.35	1.52	0.75	0

Polar Zenithal Stereographic Projection



R.F. 1: 225,000,000

Draw a graticules of Polar Zenithal Stereographic Projection at an interval of 10° on a scale of $1 : \frac{100,000,000}{300,000,000}$ for an extending from the $30^\circ S - 90^\circ S$ latitude

সূত্রানুসারে প্রায়সর্বা (R) = পৃথিবীর প্রকৃত ব্যাসার্ধ \times R.F.

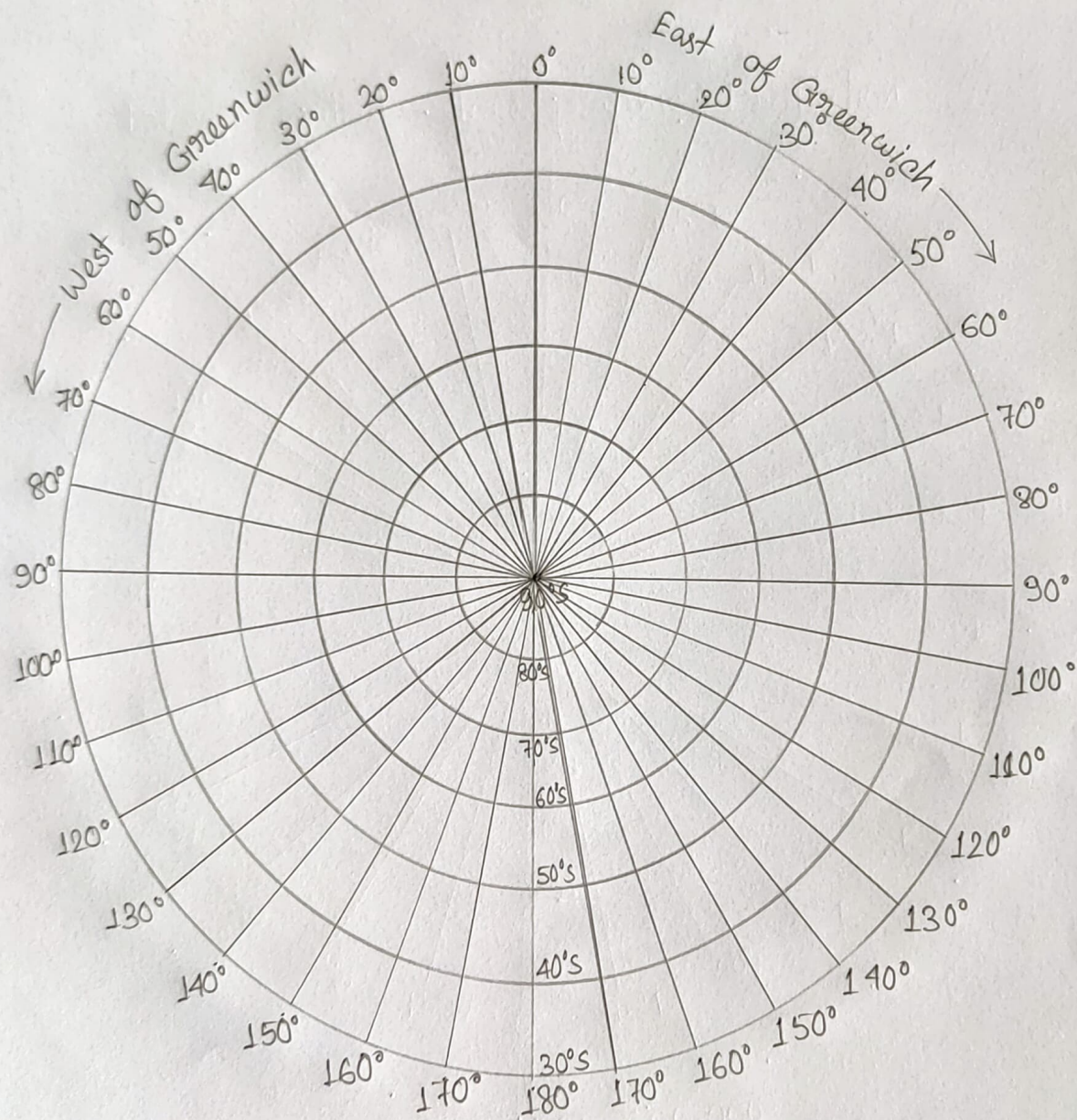
$$R = 640,000,000 \text{ cm} \times \frac{1}{100,000,000}$$

$$= 6.4 \text{ cm}$$

অক্ষরেখার ব্যাসার্ধ (r_ϕ) = $2R \cdot \tan\left(\frac{90^\circ - \phi}{2}\right)$

ϕ	$30^\circ S$	$40^\circ S$	$50^\circ S$	$60^\circ S$	$70^\circ S$	$80^\circ S$	$90^\circ S$
$\left(\frac{90^\circ - \phi}{2}\right)$	30°	25°	20°	15°	10°	5°	0°
$\tan\left(\frac{90^\circ - \phi}{2}\right)$	0.58	0.47	0.36	0.27	0.18	0.09	0
2R in cm	4.26 12.8	4.26 12.8	4.26 12.8	4.26 12.8	4.26 12.8	4.26 12.8	4.26 12.8
$2R \cdot \tan\left(\frac{90^\circ - \phi}{2}\right)$	7.42	6.02	4.61	3.46	2.30	1.15	0
r_ϕ in cm	7.42	6.02	4.61	3.46	2.30	1.15	0

Polar Zenithal Stereographic Projection



R.F. 1:100,000,000