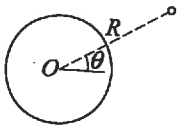
27. ■



The trajectory of a satellite orbiting the earth is

$$R = \frac{C}{1 + e\sin(\theta + \alpha)}$$

where (R, θ) are the polar coordinates of the satellite, and C, e, and α are constants (e is known as the eccentricity of the orbit). If the satellite was observed at the following three positions

θ	$-30°$	$0°$	$30°$
R (km)	6870	6728	6615