



$$ii) d = r\theta = 6378000\theta \text{ m}$$

$$R = (6378000 + 258) \cos \theta/2 > 6378000$$

$$\cos \theta/2 > \frac{6378000}{6378258} = 0.9999596$$

$$\theta/2 = 0.5153^\circ \Rightarrow \theta = 1.0307$$

$$\therefore n > \frac{360}{1.0307} = 349.28$$

$$n > 350$$

$$i) d = r\theta = 6378000 \times \frac{1.0307}{180} \times \pi$$

$$= 115427.33 \text{ m.}$$