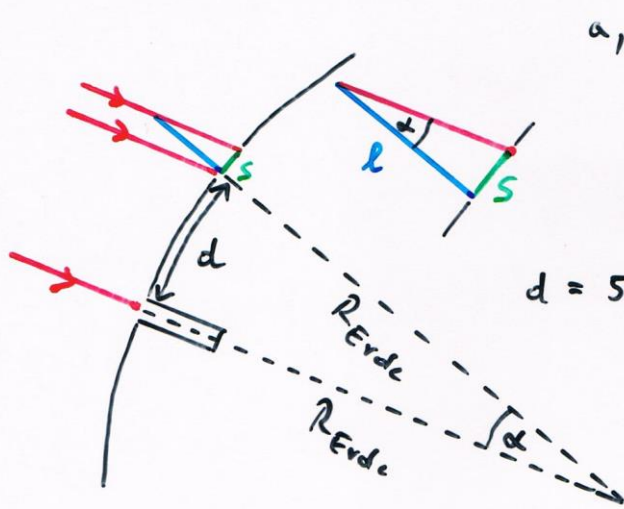


S. 16/27



a, Stablänge l
 Schattenlänge s
 $\tan \alpha = \frac{s}{l}$

$$d = 5000 \text{ Stadien} \approx 5000 \cdot 150 \text{ m} \\ = 750 \text{ km}$$

$$b, \quad \frac{\alpha}{360^\circ} \cdot 2\pi R_{Erde} = d \Rightarrow$$

$$R_{Erde} = \frac{d \cdot 360^\circ}{2\pi \cdot \alpha} = \frac{750 \text{ km} \cdot 360^\circ}{2\pi \cdot 7,2^\circ}$$

$$R_{Erde} = 5968, \dots \text{ km} \approx 6,0 \cdot 10^3 \text{ km}$$

$$\text{vgl. } R_{Erde} = 6370 \text{ km}$$

(rel. Fehler ca 6% !)