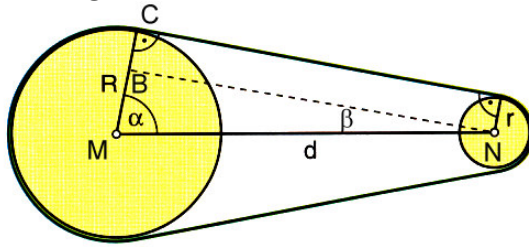


Lösung zu S.52/27a:



a)

$$\overline{MB} = R - r = 45\text{cm} - 15\text{cm} = 30\text{cm};$$

$$\cos \alpha = \frac{\overline{MB}}{d} = \frac{30\text{cm}}{165\text{cm}} = 0,18 \Rightarrow \alpha \approx 79,5243^\circ;$$

$$\sin \alpha = \frac{\overline{BN}}{d} \Rightarrow \overline{BN} = d \cdot \sin \alpha \approx 165\text{cm} \cdot \sin 79,5243^\circ \approx 162,25\text{cm};$$

$$\beta = 90^\circ - \alpha \approx 10,4757^\circ$$

$$\text{Großer Kreisbogen: } b_{\text{gr}} = \frac{360^\circ - 2\alpha}{360^\circ} 2R\pi \approx 157,83\text{cm};$$

$$\text{Kleiner Kreisbogen: } b_{\text{kl}} = \frac{360^\circ - 2(90^\circ + \beta)}{360^\circ} 2r\pi \approx 41,64\text{cm};$$

$$\text{Treibriemenlänge: } l = b_{\text{gr}} + b_{\text{kl}} + 2\overline{BN} \approx 523,97\text{cm};$$