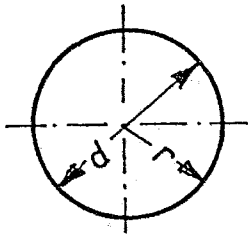


Kreis



$$A = \frac{\pi}{4} d^2 = \pi r^2$$

b 30

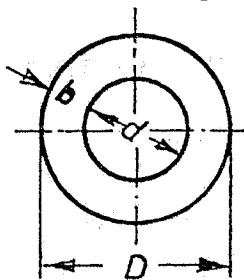
$$\approx 0,785 d^2$$

b 31

$$U = 2 \pi r = \pi d$$

b 32

Kreisring



$$A = \frac{\pi}{4} (D^2 - d^2)$$

b 33

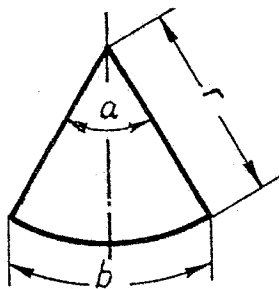
$$= \pi (d + b) b$$

b 34

$$b = \frac{D - d}{2}$$

b 35

Kreisausschnitt



$$A = \frac{\pi}{360^\circ} r^2 \alpha = \frac{\hat{\alpha}}{2} r^2$$

b 36

$$= \frac{b r}{2}$$

b 37

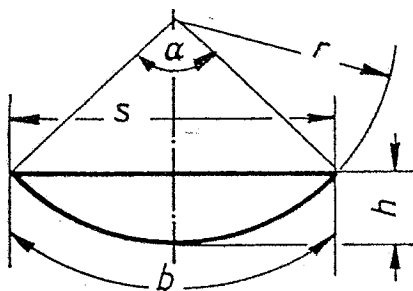
$$b = \frac{\pi}{180^\circ} r \alpha$$

b 38

$$\hat{\alpha} = \frac{\pi}{180^\circ} \alpha \quad (\hat{\alpha} \text{ im Bogenmaß; } \alpha \text{ in Grad})$$

b 39

Kreisabschnitt



$$s = 2 r \cdot \sin \frac{\alpha}{2}$$

b 40

$$A = \frac{h}{6 s} (3 h^2 + 4 s^2) = \frac{r^2}{2} (\hat{\alpha} - \sin \alpha)$$

b 41

$$r = \frac{h}{2} + \frac{s^2}{8 h}$$

b 42

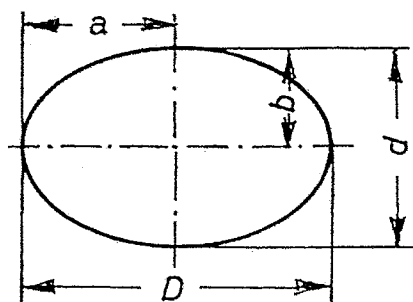
$$h = r (1 - \cos \frac{\alpha}{2}) = \frac{s}{2} \tan \frac{\alpha}{4}$$

b 43

$$\hat{\alpha} \text{ s. Formel b 39}$$

b 44

Ellipse



$$A = \frac{\pi}{4} D d = \pi a b$$

b 45

$$U \approx \pi \frac{D + d}{2}$$

b 46

$$= \pi (a+b) \left[1 + \left(\frac{1}{2} \right)^2 \cdot \lambda^2 + \left(\frac{1}{2} \cdot \frac{1}{4} \right)^2 \cdot \lambda^4 + \right. \\ \left. + \left(\frac{1}{2} \cdot \frac{1}{4} \cdot \frac{3}{6} \right)^2 \cdot \lambda^6 + \left(\frac{1}{2} \cdot \frac{1}{4} \cdot \frac{3}{6} \cdot \frac{5}{8} \right)^2 \cdot \lambda^8 + \right. \\ \left. + \left(\frac{1}{2} \cdot \frac{1}{4} \cdot \frac{3}{6} \cdot \frac{5}{8} \cdot \frac{7}{10} \right)^2 \cdot \lambda^{10} + \dots \right], \text{ dabei } \lambda = \frac{a-b}{a+b}$$

b 47