

Kreisbogen / Flächeninhalt des Kreisausschnitts

Länge des Kreisbogens

$$b(\alpha) = 2\pi r \cdot \frac{\alpha}{360^\circ}$$

Flächeninhalt des Kreisausschnitts

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

1. $r = 7\text{cm}$
 $\alpha = 50^\circ$
 $b = ?$
 $A = ?$

2. $A = 40\text{ m}^2$
 $r = 10\text{ m}$
 $b = ?$
 $\alpha = ?$

3. $b = ?$
 $r = 7\text{cm}$
 $A = ?$
 $\alpha = 40^\circ$

4. $b = ?$
 $r = 5\text{ m}$
 $A = 30\text{m}^2$
 $\alpha = ?$

Lösungen

1. $r = 7\text{cm}$
 $\alpha = 50^\circ$
 $b = 6,11\text{cm}$
 $A = 21,38\text{cm}^2$

2. $A = 40\text{ m}^2$
 $r = 10\text{ m}$
 $b = 7,99\text{m}$
 $\alpha = 45,8^\circ$

3. $b = 4,89\text{cm}$
 $r = 7\text{cm}$
 $A = 17,10\text{cm}^2$
 $\alpha = 40^\circ$

4. $b = 12,0\text{m}$
 $r = 5\text{ m}$
 $A = 30\text{m}^2$
 $\alpha = 137,5^\circ$