10.6



$\alpha = 100°$, $r = 5{,}6\,cm$

Kosinussatz: $x^2 = r^2 + r^2 - 2 \cdot r \cdot r \cdot \cos\alpha \quad |\sqrt{}$

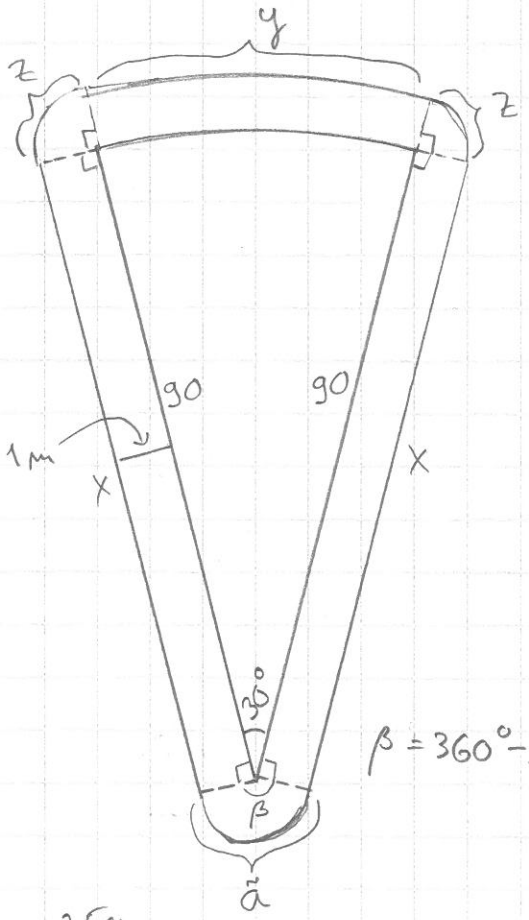
$x \approx 8{,}5797\,cm$

$b = \frac{\alpha}{360°} \cdot 2\pi r \approx 9{,}7738\,cm$

$\Rightarrow$ gesucht: $b + x \approx 18{,}3535\,cm \approx \underline{18\,cm}$

$A_{Seg} = A_K - A_D = \frac{\alpha}{360°} \pi r^2 - \frac{1}{2} \cdot r \cdot r \cdot \sin\alpha = \ldots \approx 11{,}925\,cm^2 \approx \underline{12\,cm^2}$

10.9



$x = 90$

$y = \frac{30°}{360°} \cdot 2\pi \cdot 91$

$z = \frac{90°}{360°} 2\pi \cdot 1$

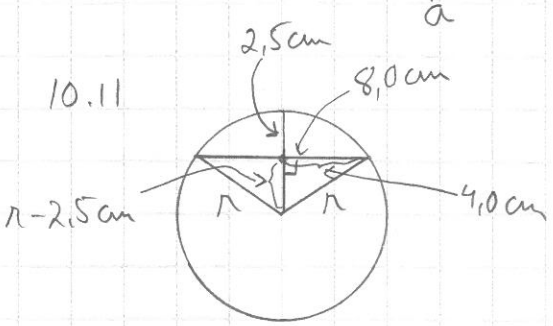
$\tilde{a} = \frac{150°}{360°} 2\pi \cdot 1$

$\Rightarrow$ restlicher Umfang:

$2x + y + 2z + \tilde{a}$

$\beta = 360° - 30° - 90° - 90° = 150° \quad \hat{=} 233{,}407\,m \approx \underline{233\,m}$

10.11



$(r - 2{,}5)^2 + 4^2 = r^2$

$\Leftrightarrow (r - 2{,}5)(r - 2{,}5) + 16 = r^2$

$\Leftrightarrow r^2 - 2{,}5r - 2{,}5r + 2{,}5^2 + 16 = r^2$

$\Leftrightarrow 2{,}5^2 + 16 = 5r \quad |:5$

$\Leftrightarrow r = \frac{2{,}5^2 + 16}{5} = 4{,}45 \approx \underline{4{,}5\,(cm)}$