

Nr. 5

a) $d = r \cdot 2 = 27\text{cm} \cdot 2 = 54\text{cm}$
 $A = \pi \cdot r^2 = 3,14159 \cdot (27\text{cm})^2 = 3,14159 \cdot 729\text{cm}^2 = 2290,22\text{cm}^2$
 $u = \pi \cdot d = 3,14159 \cdot 54\text{cm} = 169,646\text{cm}$

b) $r = \frac{d}{2} = \frac{48\text{m}}{2} = 24\text{m}$
 $A = \pi \cdot r^2 = 3,14159 \cdot (24\text{m})^2 = 3,14159 \cdot 576\text{m}^2 = 1809,56\text{m}^2$
 $u = \pi \cdot d = 3,14159 \cdot 48\text{m} = 150,796\text{m}$

c) $d = \frac{u}{\pi} = \frac{735\text{m}}{3,14159} = 233958\text{m}$
 $r = \frac{d}{2} = \frac{233958\text{m}}{2} = 116979\text{m}$
 $A = \pi \cdot r^2 = 3,14159 \cdot (116979\text{m})^2 = 3,14159 \cdot 136,841\text{m}^2 = 429,899\text{m}^2$

d) $r = \sqrt{A : \pi} = \sqrt{750\text{m}^2 : 3,14159} = 15,451\text{m}$
 $d = r \cdot 2 = 15,451\text{m} \cdot 2 = 30,902\text{m}$
 $u = \pi \cdot d = 3,14159 \cdot 30,902\text{m} = 97,0815\text{m}$

e) $r = \frac{d}{2} = \frac{1\text{km}}{2} = \frac{1}{2}\text{km}$
 $u = \pi \cdot d = 3,14159 \cdot 1\text{km} = 3,14159\text{km}$
 $A = \pi \cdot r^2 = 3,14159 \cdot \left(\frac{1}{2}\text{km}\right)^2 = 3,14159 \cdot \frac{1}{4}\text{km}^2 = 0,785398\text{km}^2$

f) $A = \pi \cdot r^2 \quad | : \pi$
 $r^2 = A : \pi$
 $r^2 = 4,56\text{ha} : 3,14159$
 $r^2 = 45600\text{m}^2 : 3,14159$
 $r^2 = 14514,9\text{m}^2 \quad | \sqrt{}$
 $r = \sqrt{14514,9\text{m}^2}$
 $r = 120,478\text{m}$
 $d = 120,478\text{m} \cdot 2 = 240,956\text{m}$
 $u = \pi \cdot d = 3,14159 \cdot 240,956\text{m} = 763,246\text{m}$

Nr. 12

$$\begin{aligned}
 a) \quad A_s &= \frac{\mu}{360^\circ} \cdot \pi \cdot r^2 \\
 40 \text{ cm}^2 &= \frac{50^\circ}{360^\circ} \cdot 3,14159 \cdot r^2 \quad | : \frac{50^\circ}{360^\circ} : 3,14159 \\
 r^2 &= 40 \text{ cm}^2 : \frac{50^\circ}{360^\circ} : 3,14159 \\
 r^2 &= 40 \text{ cm}^2 \cdot \frac{360}{5} : 3,14159 \\
 r^2 &= 288 \text{ cm}^2 : 3,14159 \\
 r^2 &= 91,6732 \text{ cm}^2 \quad | \sqrt{} \\
 r &= \underline{\underline{9,57461 \text{ cm}}}
 \end{aligned}$$

$$d = r \cdot 2$$

$$d = r \cdot 9,57461 \text{ cm}$$

$$d = \underline{\underline{19,1492 \text{ cm}}}$$

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

$$b = \frac{50^\circ}{180^\circ} \cdot 3,14159 \cdot 9,57461 \text{ cm}$$

$$b = \frac{5}{18} \cdot 3,14159 \cdot 9,57461 \text{ cm}$$

$$b = \underline{\underline{8,35543 \text{ cm}}}$$

$$u = 2r + b$$

$$u = 19,1492 \text{ cm} + 8,35543 \text{ cm}$$

$$u = \underline{\underline{27,5047 \text{ cm}}}$$

$$\begin{aligned}
 b) \quad r &= \frac{d}{2} \\
 r &= \frac{6 \text{ mm}}{2} \\
 r &= \underline{\underline{3 \text{ mm}}}
 \end{aligned}$$

$$u = 2r + b \quad | -2r$$

$$b = u - 2r$$

$$b = 8 \text{ mm} - 2 \cdot 3 \text{ mm}$$

$$b = 8 \text{ mm} - 6 \text{ mm}$$

$$b = \underline{\underline{2 \text{ mm}}}$$

$$b = \frac{\mu}{180^\circ} \cdot \pi \cdot r \quad | : \pi : r$$

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

$$\frac{\mu}{180^\circ} = 2 \text{ mm} : 3,14159 : 3 \text{ mm}$$

$$\frac{\mu}{180^\circ} = 0,212207 \quad | \cdot 180^\circ$$

$$\mu = \underline{\underline{38,1972^\circ}}$$

$$A_s = \frac{\mu}{360^\circ} \cdot \pi \cdot r^2$$

$$A_s = \frac{38,1972^\circ}{360^\circ} \cdot 3,14159 \cdot (3 \text{ mm})^2$$

$$A_s = 0,106103 \cdot 3,14159 \cdot 9 \text{ mm}^2$$

$$A_s = \underline{\underline{3 \text{ mm}^2}}$$

$$\begin{aligned}
 c) \quad d &= r \cdot 2 \\
 d &= 4 \text{ cm} \cdot 2 \\
 d &= \underline{\underline{8 \text{ cm}}}
 \end{aligned}$$

$$A_s = \frac{\mu}{360^\circ} \cdot \pi \cdot r^2 \quad | : \pi : r^2$$

$$\frac{\mu}{360^\circ} = A_s : \pi : r^2$$

$$\frac{\mu}{360^\circ} = 20 \text{ cm}^2 : 3,14159 : (4 \text{ cm})^2$$

$$\frac{\mu}{360^\circ} = 20 \text{ cm}^2 : 3,14159 : 16 \text{ cm}^2$$

$$\frac{\mu}{360^\circ} = 0,397887 \quad | \cdot 360^\circ$$

$$\mu = \underline{\underline{143,239^\circ}}$$

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

$$b = \frac{143,239^\circ}{180^\circ} \cdot 3,14159 \cdot 4 \text{ cm}$$

$$b = 0,785775 \cdot 3,14159 \cdot 4 \text{ cm}$$

$$b = \underline{\underline{10 \text{ cm}}}$$

$$u = b + 2r$$

$$u = 10 \text{ cm} + 8 \text{ cm}$$

$$u = \underline{\underline{18 \text{ cm}}}$$