1. URA – PLOŠČINA KROŽNEGA IZSEKA – REŠITVE

U str. 174/1

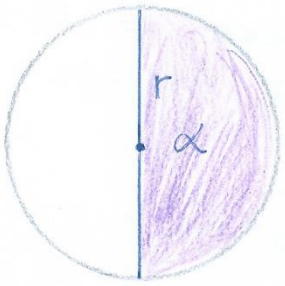
a)

$r = 1\,cm$

$\alpha = 45°$

$$p_i = \frac{\pi \cdot r^2 \cdot \alpha}{360°} = \frac{\pi \cdot 1^2 \cdot 45° \cdot 1}{360° \cdot 8} = \frac{\pi \cdot 1}{8} \doteq \frac{3{,}14}{8} \doteq 0{,}39\,cm^2$$

b)



$r = 2\,cm$

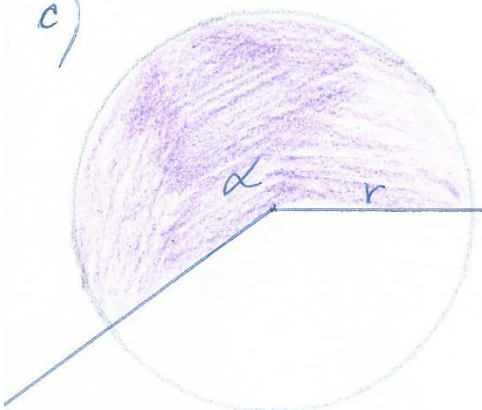
$\alpha = 180°$

$$p_i = \frac{\pi \cdot r^2 \cdot \alpha}{360°} = \frac{\pi \cdot 2^2 \cdot 180°}{360°} =$$

$$= \frac{\pi \cdot 4 \cdot 180° \cdot 1 \cdot 2}{360° \cdot 2 \cdot 1} = 2\pi \doteq 2 \cdot 3{,}14 \doteq$$

$$\doteq 6{,}28\,cm^2$$

c)



$r = 3\,cm$

$\alpha = 225°$

$$p_i = \frac{\pi \cdot r^2 \cdot \alpha}{360°} = \frac{\pi \cdot 3^2 \cdot 225°}{360°} =$$

$$= \frac{\pi \cdot 9 \cdot 225° \cdot 5}{360° \cdot 8} =$$

$$\doteq \frac{3{,}14 \cdot 45}{8} = 17{,}66\,cm^2$$

V str. 175/2

a) $p = 30\,cm^2$ $\quad \alpha = 120°$

$p_i = 30 : 3 = \underline{10\,cm^2}$

RAZLAGA
- $360° : 120° = 3$
- PLOŠČINA KROŽNEGA IZSEKA JE 3KRAT MANJŠA.

b) $p = 2{,}4\,dm^2 = 240\,cm^2$

$\alpha = 30°$

$p_i = 240 : 12 = \underline{20\,cm^2}$

RAZLAGA
- $360° : 30° = 12$
- PLOŠČINA KROŽNEGA IZSEKA JE 12 KRAT MANJŠA.

c) $p = 81\,cm^2$ $\quad \alpha = 45°$

$p_i = 81 : 8 \doteq \underline{10{,}13\,cm^2}$

RAZLAGA
- $360° : 45° = 8$
- PLOŠČINA KROŽNEGA IZSEKA JE 8 KRAT MANJŠA.

V str. 175/3

a) $r = 4\,cm$

$\alpha = 20°$

$p_i =$

$$p_i = \frac{\pi \cdot r^2 \cdot \alpha}{360°} = \frac{\pi \cdot 4^2 \cdot 20°}{360°} =$$

$$= \frac{\pi \cdot \cancel{16} \cdot \cancel{20°} \cdot 1 \cdot 8}{\cancel{360°} \cdot \cancel{18} \cdot 9} \doteq \frac{3{,}14 \cdot 8}{9} =$$

$$\doteq \underline{2{,}79\,cm^2}$$

b) $r = 12\ cm$
$\alpha = 180°$
$p_i =$

$$p_i = \frac{\pi \cdot r^2 \cdot \alpha}{360°} = \frac{\pi \cdot 12^2 \cdot 180°}{360°} =$$

$$= \frac{\pi \cdot 144 \cdot 180° \cdot 1 \cdot 72}{360° \cdot 2 \cdot 1} = 3{,}14 \cdot 72 =$$

$$= 226{,}08\ cm^2$$

c) $d = 18\ cm$
$\alpha = 270°$
$p_i =$

$r = 18 : 2 = 9\ cm$

$$p_i = \frac{\pi \cdot r^2 \cdot \alpha}{360°} = \frac{\pi \cdot 9^2 \cdot 270°}{360°} =$$

$$= \frac{\pi \cdot 81 \cdot 270° \cdot 3}{360° \cdot 4} = \frac{3{,}14 \cdot 81 \cdot 3}{4} =$$

$$= 190{,}76\ cm^2$$

č) $d = 5\ dm \Rightarrow r = 5 : 2 = 2{,}5\ dm = 25\ cm$
$\alpha = 40\%$ od $360° = 144°$
$p_i =$

$$p_i = \frac{\pi \cdot r^2 \alpha}{360°} = \frac{\pi \cdot 25^2 \cdot 144°}{360°} =$$

$$= \frac{3{,}14 \cdot 625 \cdot 144° \cdot 125° \cdot 2}{360° \cdot 72° \cdot 1} =$$

$$= 3{,}14 \cdot 250 = 785\ cm^2 = 7{,}85\ dm^2$$

d) $o = 16\pi\ cm$
$\alpha = \frac{1}{6}$ od $360° = 60°$

$o = 2\pi r$

$$r = \frac{o}{2\pi} = \frac{16\pi \cdot 1 \cdot 8}{2\pi \cdot 1 \cdot 1} = 8\ cm$$

$$p_i = \frac{\pi \cdot r^2 \cdot \alpha}{360°} = \frac{\pi \cdot 8^2 \cdot 60°}{360°} =$$

$$= \frac{3{,}14 \cdot 64 \cdot 60° \cdot 1 \cdot 32}{360° \cdot 6 \cdot 3} = 33{,}49\ cm^2$$