

Giovanna Santana Pennisi - CTII 350

Lista de Exercícios - Aula 29

Lista de Exercícios

1 - $C = 2 \cdot \pi \cdot R$ | 6 km/L (120 litros) | $n^\circ \text{ voltas} = ?$

$\pi = 3,14$
 $R = 1,5 \text{ km}$ | $120 \cdot 6 = 720 \text{ km}$

$C = 2 \cdot \pi \cdot 1,5$
 $C = 3\pi$
 $C = 3 \cdot 3,14$
 $C = 9,42$

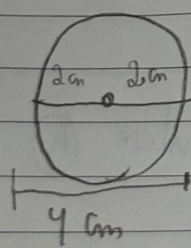
$1 \text{ volta} = 9,42 \text{ km}$
 $n \text{ voltas} = 720 \text{ km}$

$n = \frac{720}{9,42} = 76,43$

$9,42 n = 720$

$n \approx 76 \text{ voltas}$ Alternativa C

2 -

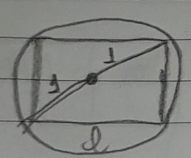


$1 \text{ volta} = 2\pi R$
 $1 \text{ volta} = 2\pi \cdot 2$
 $1 \text{ volta} = 4\pi$

$10 \text{ voltas} = 10 \cdot 4\pi$
 $10 \text{ voltas} = 40\pi$

Alternativa C

3 -

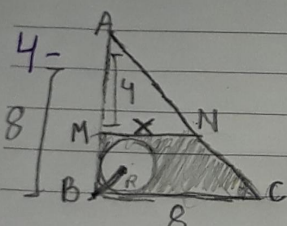


Diagonal do quadrado $= l\sqrt{2}$
 $d = l\sqrt{2}$
 $l = \frac{d}{\sqrt{2}} = \frac{2}{\sqrt{2}} = \sqrt{2}$

$l = \frac{2\sqrt{2}}{\sqrt{2}^2}$
 $l = \frac{2\sqrt{2}}{2} \rightarrow l = \sqrt{2}$

$A_{\text{região}} = A_{\text{O}} - A_{\text{Q}}$
 $A_{\text{região}} = \pi \cdot 1^2 - (\sqrt{2})^2$

$A_{\text{região}} = \pi - 2$ Alternativa D

$4 =$
 8


$\left. \begin{array}{l} r = 3,1 \\ R = \frac{h}{2} \\ R = \frac{4}{2} = 2 \end{array} \right\}$

$\frac{ab}{am} = \frac{bc}{mn}$
 $\frac{8}{4} = \frac{8}{x}$
 $8x = 32$

$x = \frac{32}{8} \Rightarrow x = 4$

$A_{MNCR} = \frac{(B+b) \cdot h}{2}$
 $A_{MNCR} = \frac{(8+4) \cdot 4}{2}$
 $A_{MNCR} = \frac{12 \cdot 4}{2}$
 $A_{MNCR} = 12 \cdot 2$
 $A_{MNCR} = 24 \text{ cm}^2$

$AC = r \cdot R^2$
 $AC = 3,1 \cdot 2^2$
 $AC = 3,1 \cdot 4$
 $AC = 12,4 \text{ cm}^2$

$\text{Área hachurada} = A_{MNCR} - AC$
 $A. \text{ hachurada} = 24 - 12,4$
 $\text{Área hachurada} = 11,6 \text{ cm}^2$
 Alternativa A

5- $C_1 \rightarrow R_1 = 10 \text{ cm}$
 $C_2 \rightarrow R_2 = 5 \text{ cm}$

$\left. \begin{array}{l} \text{Área } C_1 \\ \text{Perímetro } C_2 \end{array} \right\} \Rightarrow ??$

$\frac{A_{C_1}}{P_{C_2}} = \frac{\pi \cdot 10^2}{2 \cdot \pi \cdot 5} = \frac{100}{2 \cdot 5} = \frac{100}{10} = 10 \text{ cm}$

Alternativa C

6- Diâmetro vírus = $0,02 \cdot 10^{-3} \text{ m}$
 Área da colônia = 1 cm^2

$D. \text{ vírus} = 0,02 \cdot 10^{-3} \cdot 10^{-1} \text{ cm}$
 $D. \text{ vírus} = 0,02 \cdot 10^{-4} \text{ cm}$
 $D. \text{ vírus} = 2 \cdot 10^{-2} \cdot 10^{-4} \rightarrow 2 \cdot 10^{-6} \text{ cm}$

Quantos vírus cabem em uma fileira de 1 cm ? $\frac{1}{2 \cdot 10^{-6}}$

$\frac{1}{2 \cdot 10^{-6}} = 0,5 \cdot 10^{-6} = 5 \cdot 10^{-7} \cdot 10^6 = 5 \cdot 10^5$

Fileiras verticais e horizontais
 $(5 \cdot 10^5) \cdot (5 \cdot 10^5)$

$25 \cdot 10^{10}$ Alternativa C

$$7 - A_{\text{grama}} = A_{\text{terreno}} - A_{\text{casa}} - A_{\text{piscina}} - A_{\text{vestiário}}$$

$$A_g = A_{\square 40m \atop 15m} - A_{\diamond 12m \atop 24m} - A_{\bigcirc 4m} - A_{\square 3,5m \atop 3,5m}$$

$$A_g = 15 \cdot 40 - \frac{12 \cdot 24}{2} - \pi \cdot 4^2 - 3,5 \cdot 3,5$$

$$A_g = 600 - 144 - 3,14 \cdot 16 - 12,25$$

$$A_g = 456 - 50,24 - 12,25$$

$$A_g = 405,76 - 12,25$$

$$A_g = 393,51 \text{ m}^2$$

m ²	R\$
1	2,40
393,51	X

$$PX = 393,51 \cdot 2,4$$

$$X \approx$$

$$\text{R\$ } 944,40$$

Alternativa C