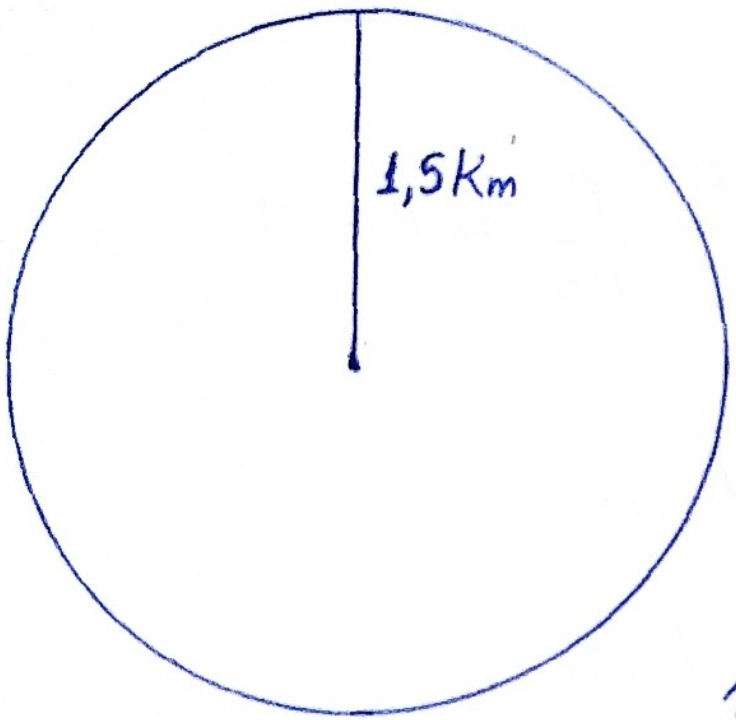
1.



$P_{pista} = 2\pi \cdot 1,5$

$P_{pista} = 3\pi \text{ Km}$

Se com 1 Litro, ele percorre 6 Km, então com 120L percorre:

$$\begin{matrix} 1\,L & — & 6\,Km \\ 120\,L & — & x\,Km \end{matrix}$$

x120 x120

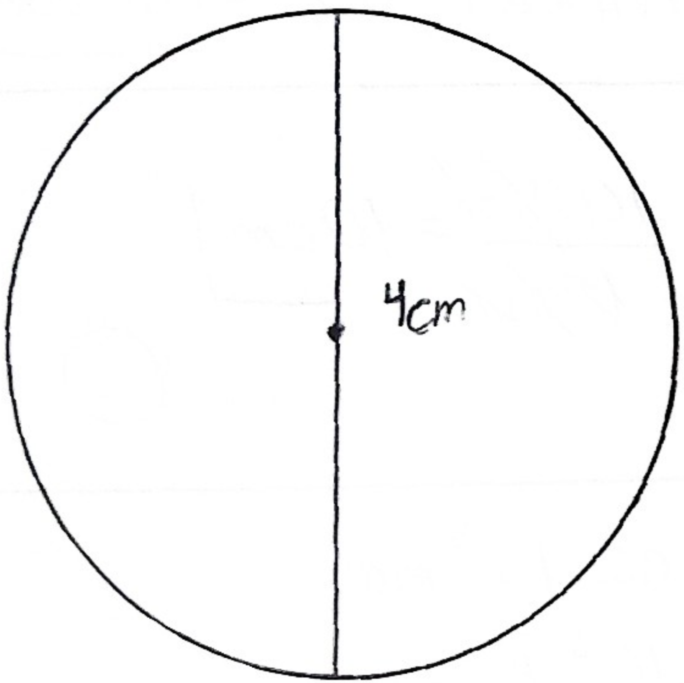
$x = 720 \text{ Km}$

$$n^{\circ} \text{ de voltas} = \frac{720}{3\pi} \cong 76,39$$

C

Então o piloto fez 76 voltas completas.

2.



$P_{pista} = 2\pi . r$

$P_{pista} = 2 . \pi . 2$

$P_{pista} = 4\pi$

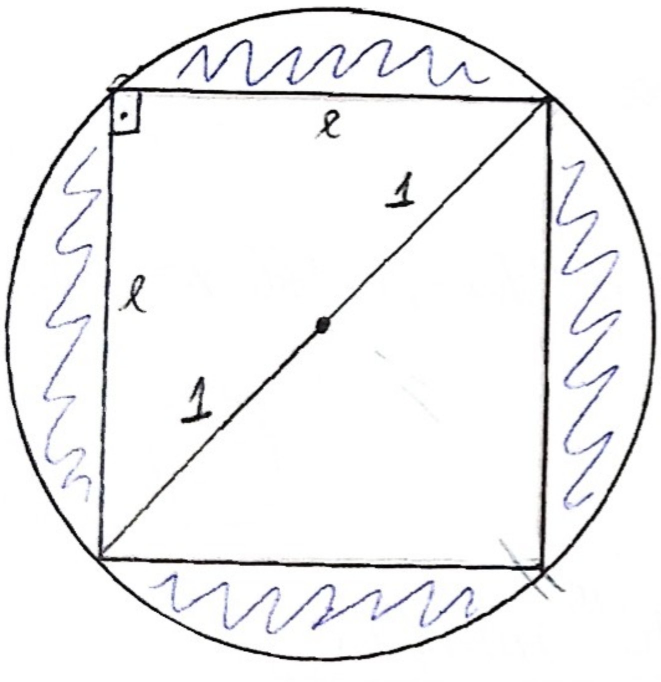
Se o carrinho deu 10 voltas, então:

$10 . 4 . \pi = 40\pi \text{ cm}$

C

O carrinho percorreo 40π cm.

3.



Pitágoras na metade do quadrado

$2^2 = \ell^2 + \ell^2$

$2\ell^2 = 4$

$\ell = \sqrt{2}$

Área Quadrado

$A_Q = \ell^2 \Rightarrow (\sqrt{2})^2 = 2$

$A_{circ} = \pi . r^2$

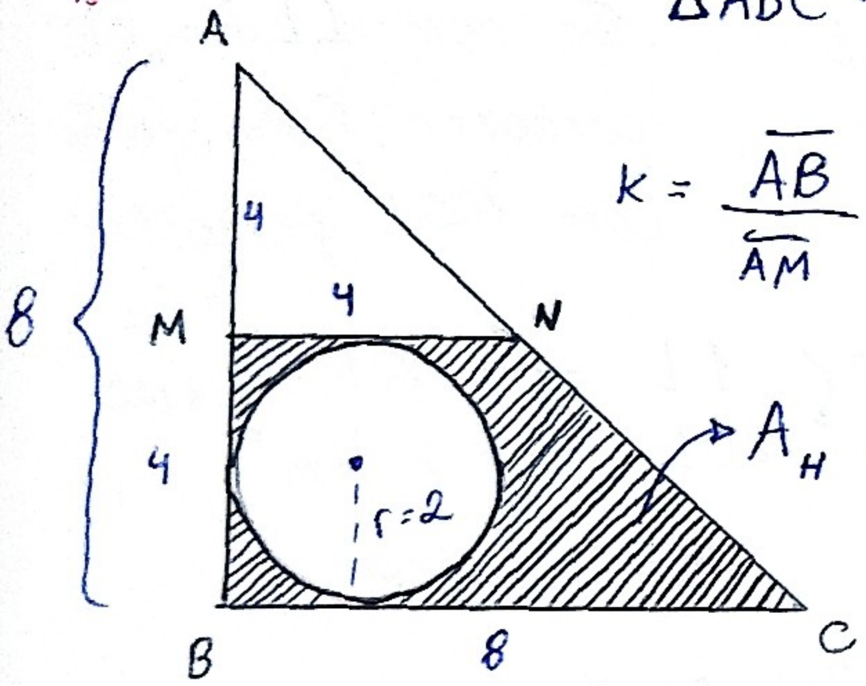
$A_{circ} = \pi$

$A_{circ} - A_Q = ? = A_{sobra}$

$\pi - 2 = A_{sobra}$

D

4.



$\Delta ABC \sim \Delta AMN$

$$k = \frac{\overline{AB}}{\overline{AM}} = \frac{\overline{AC}}{\overline{AN}} = \frac{\overline{BC}}{\overline{MN}} \Rightarrow \frac{8}{4} = \frac{8}{\overline{MN}} \Rightarrow \overline{MN} = 4$$

$$A_H = \underbrace{A_{ABC} - A_{AMN}} - A_{circ}$$

$$A_H = A_{TRAPÉZIO} - A_{circ}$$

$$A_H = \left(\frac{(b+B) \cdot h}{2}\right) - \pi \cdot r^2$$

$$A_H = \left(\frac{(4+8) \cdot 4}{2}\right) - \pi \cdot 2^2$$

$$A_H = 24 - 4\pi \Rightarrow A_H = 24 - 4 \cdot 3{,}1 = 11{,}6\ cm^2$$

A

5. $A_{c_1} = \pi \cdot 10^2 = 100\pi cm^2$

$P_{c_2} = 2 \cdot \pi \cdot 5 = 10\pi\ cm$

$\dfrac{A_{c_1}}{P_{c_2}} = \dfrac{10\cancel{0}\cancel{\pi} cm^{\cancel{2}}}{1\cancel{0}\cancel{\pi}\cancel{cm}} = \boxed{10 cm}$

C

6. $A_s = 1 cm^2 \Rightarrow A_s = (1.10)^2 mm^2$

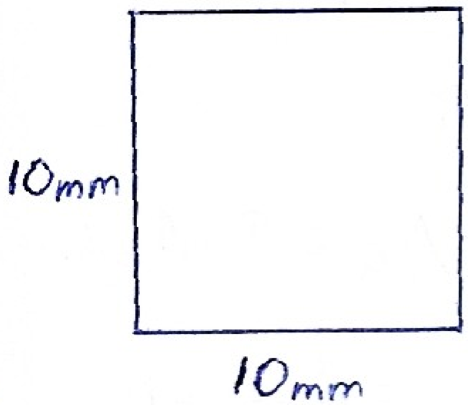
$1 cm = 1.10 mm$

$A_s = 100 mm^2$

$0,02.10^{-3} mm$

$2.10^{-2}.10^{-3} mm$

$2.10^{-5} mm$



$\dfrac{10 mm}{2.10^{-5} mm} = 5.10^5$ indivíduos

Se em 10mm possui 5.10^5 indíduos, então na superfície terá:

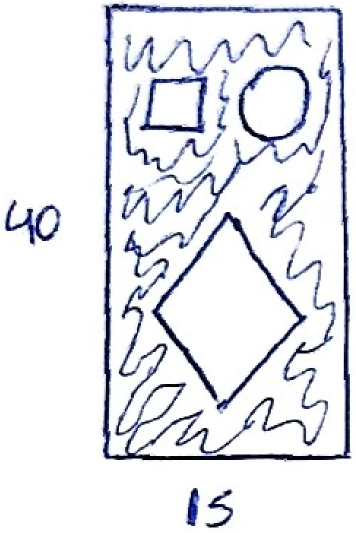
C

$A_s = 10mm \cdot 10mm$

$A_s = 5.10^5 \cdot 5.10^5 = \boxed{25.10^{10} \text{ indivíduos}}$

7.

$$A_{grama} = A_{TERRENO} - A_{casa} - A_{piscina} - A_{VEST}$$



$$A_{grama} = (15 \cdot 40) - \left(\frac{12 \cdot 24}{2}\right) - \left(\pi \cdot 4^2\right) - (3{,}5)^2$$

$$A_{grama} = 600 - 144 - 16\pi - 12{,}25$$

$$A_{grama} \cong 443{,}75 - (16 \cdot 3{,}14)$$

$$A_{grama} \cong 393{,}51 \, m^2$$

Se $1m^2$ — R\$2,40

393,51 — R\$ x

C

$x \cong$ 944,42 reais