

Gabarito

Teste Álgebra - 8º ANO

2º TRIMESTRE

$$1. a) \begin{cases} x+y=7 \\ x-y=1 \end{cases}$$

$$2x=8$$

$$x=4$$

$$4+y=7$$

$$y=3$$

$$S = \{4, 3\}$$

Determinado
Retas Concorrentes

$$b) \begin{cases} 2x+y=0 \cdot (-1) \\ 3x+y=-2 \end{cases}$$

$$-2x-y=0$$

$$3x+y=-2$$

$$x = -2$$

$$2 \cdot (-2) + y = 0 \quad S = \{-2, 4\}$$

$$y = 4$$

Determinado
Retas Concorrentes.

$$2. \begin{cases} x+y=72 \\ 5x=4y \end{cases} \therefore x = \frac{4y}{5}$$

$$\frac{4y}{5} + y = 72$$

$$4y + 5y = 360$$

$$9y = 360$$

$$y = 40 \text{ m}$$

$$x = \frac{4 \cdot 40}{5} = 32 \text{ m}$$

Centro da Pista $\Rightarrow 36 \text{ m}$.

S encontram-se a 4m do centro da pista

$$3. \begin{cases} 6x + (m-1)y = 4 \\ 9x - 2y = p+1 \end{cases}$$

$$\frac{6}{9} = \frac{m-1}{-2} = \frac{4}{p+1}$$

$$\frac{6}{9} = \frac{m-1}{-2}$$

$$9m - 9 = -12$$

$$9m = -3$$

$$m = -\frac{1}{3}$$

$$\frac{6}{9} = \frac{4}{p+1}$$

$$6p + 6 = 36$$

$$6p = 30$$

$$p = 5$$

$$4. \begin{cases} 6x+y=71 \quad (-4) \\ 7x+4y=131 \end{cases}$$

$$-24x - 4y = -284$$

$$7x + 4y = 131$$

$$-17x = -153 \quad (-1)$$

$$x = \frac{153}{17}$$

$$x = 9$$

$$6x + y = 71$$

$$6 \cdot 9 + y = 71$$

$$y = 17$$

Ingresso adulto $\Rightarrow R\$ 17,00$

Ingresso criança $\Rightarrow R\$ 9,00$

$$\begin{aligned}
 5. \quad & \begin{cases} M = 3C \\ (M+15) = 2(C+15) \end{cases} \\
 & \begin{cases} M = 3C \\ M - 2C = 15 \end{cases} \\
 & 3C - 2C = 15 \\
 & C = 15
 \end{aligned}$$

$$\begin{aligned}
 M &= 3C \\
 M &= 3 \cdot 15 \\
 M &= 45 \\
 M_{\text{Mãe}} &\Rightarrow 45 \text{ anos} \\
 C_{\text{Mãe}} &\Rightarrow 15 \text{ anos}
 \end{aligned}$$

$$\begin{aligned}
 6. \quad & \begin{cases} 10x + 50y = 630 \\ x + y = 19 \end{cases} \\
 & \begin{cases} x + 5y = 63 \\ x + y = 19 \quad (-1) \end{cases} \\
 & \begin{array}{r} x + 5y = 63 \\ -x - y = -19 \\ \hline 4y = 744 \end{array}
 \end{aligned}$$

$$\begin{aligned}
 x + y &= 19 \\
 x + 11 &= 19 \\
 x &= 8 \text{ cédulas de R\$10,00}
 \end{aligned}$$

$$y = 11 \text{ cédulas de R\$50,00}$$

$$7. \quad A) \frac{(-0,5)^0 + (-0,4)^3}{-1 + \left(\frac{1}{2}\right)^2}$$

$$0,4 = \frac{4}{10} = \frac{2}{5}$$

$$\frac{1 + \left(-\frac{2}{5}\right)^3}{-1 + \frac{1}{4}}$$

$$\begin{array}{r} 1 - 8 \\ \hline 125 \end{array}$$

$$\frac{125 - 8}{125} = \frac{117}{125}$$

$$\frac{117}{125} : \left(-\frac{3}{4}\right) = \frac{117}{125} \cdot \left(-\frac{4}{3}\right) = -\frac{156}{125}$$

$$\begin{aligned}
 b) \quad & \left(1 - \frac{1}{2}\right)^2 : \left[\left(1 - \frac{3}{4}\right)^3 \cdot 8 + \left(\frac{1}{2}\right)^2\right] \\
 & \left(\frac{1}{2}\right)^2 : \left[\left(\frac{1}{4}\right)^3 \cdot 8 + \frac{1}{4}\right] \\
 & \left(\frac{2-1}{2}\right)^2 : \left[\left(\frac{4-3}{4}\right)^3 \cdot 8 + \frac{1}{4}\right] \\
 & \left(\frac{1}{2}\right)^2 : \left[\left(\frac{1}{4}\right)^3 \cdot 8 + \frac{1}{4}\right] \\
 & \frac{1}{4} : \left[\frac{1}{16} \cdot 8 + \frac{1}{4}\right] \\
 & \frac{1}{4} : \left[\frac{1}{2} + \frac{1}{4}\right] \\
 & \frac{1}{4} : \left[\frac{2+1}{4}\right] = \frac{1}{4} : \frac{3}{4} \\
 & \frac{1}{4} \cdot \frac{4}{3} = \frac{1}{3}
 \end{aligned}$$