

## PROVA 2

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QUESTÃO 1 D

QUESTÃO 2 A

QUESTÃO 3 D

$$\beta = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}, \beta_1 = \begin{bmatrix} -1 & 1 \\ 1 & 1 \end{bmatrix}, \beta_2 = \begin{bmatrix} \sqrt{3} & \sqrt{3} \\ 1 & -1 \end{bmatrix}$$

$$\begin{bmatrix} 1 \\ 1 \end{bmatrix}_{\beta_1} = \begin{bmatrix} 0,2587 & 0,5 \\ 0,7887 & -0,5 \end{bmatrix} \cdot \begin{bmatrix} 1 \\ 1 \end{bmatrix} = \begin{bmatrix} 0,2587 & 0,5 \\ 0,7887 & -0,5 \end{bmatrix}$$

$$\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 3 \\ -2 \end{bmatrix}$$

$$\begin{bmatrix} 3 \\ -2 \end{bmatrix} = \begin{bmatrix} 0,2587 & 0,5 \\ 0,7887 & -0,5 \end{bmatrix} \cdot \begin{bmatrix} x \\ y \end{bmatrix} \Rightarrow d)$$

$$0,2587x + 0,5y = 3 \rightarrow$$

$$0,2587x - 0,5y = -2 \rightarrow x = \frac{-2 + 0,5y}{0,2587}$$

## QUESTÃO 4

a)  $W = \{(x, y, z, t) \in \mathbb{R}^4 \text{ tal que } 2x + y - t = 0 \text{ e } z = 0\}$ 

$$\vec{u} = (x_1, y_1, z_1, t_1)$$

$$\vec{v} = (x_2, y_2, z_2, t_2)$$

$$z = 0$$

$$2x + y - t = 0$$

$$2x + y = t$$

$$\vec{u} = (x_1, y_1, 0, 2x_1 + y_1)$$

$$\vec{v} = (x_2, y_2, 0, 2x_2 + y_2)$$

$$\vec{u} + \vec{v}$$

$$(x_1, y_1, 0, 2x_1 + y_1) + (x_2, y_2, 0, 2x_2 + y_2) = \overbrace{(x_1 + x_2)}^x, \overbrace{(y_1 + y_2)}^y, \overbrace{(0 + 0)}^z, \overbrace{(2x_1 + y_1 + 2x_2 + y_2)}^t$$

$$\therefore 2x + y = 2(x_1 + x_2) + y_1 + y_2 = 2x_1 + 2x_2 + y_1 + y_2$$

$$= \underbrace{2x_1 + y_1 + 2x_2 + y_2}_t \checkmark$$

$$\therefore z = 0 + 0 \rightarrow z = 0 \checkmark$$

$$a \cdot \vec{u}$$

$$a(x_1, y_1, 0, 2x_1 + y_1) = \overbrace{(a \cdot x_1)}^x, \overbrace{(a \cdot y_1)}^y, \overbrace{(a \cdot 0)}^z, \overbrace{(a \cdot (2x_1 + y_1))}^t =$$

$$\therefore 2x + y = 2(a \cdot x_1) + a \cdot y_1 = a(2x_1 + y_1) \checkmark$$

$$\therefore z = a \cdot 0 = z = 0 \checkmark$$

# PROVA 2 - PE

1) UFHG

$$\bar{X} = 8,5$$

$$S = 2,3$$

$$CV = \frac{2,3}{8,5} \approx 0,2705$$

$$\approx 27\%$$

UNB

$$\bar{X} = \frac{1.105}{100} = 11,05$$

$$S = \sqrt{21,76} \approx 4,6$$

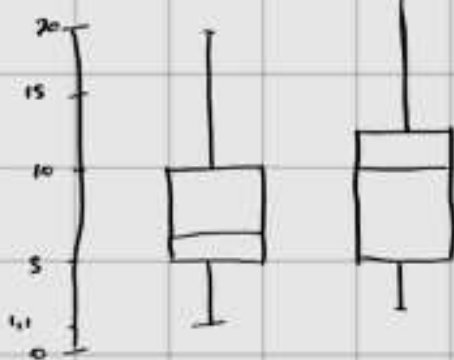
$$C = \frac{4,6}{11,05} = 0,416$$

$$= 41,6\%$$

2) teste

n =

3) Quantitativa contínua



A  $\rightarrow$  Média > Mediana = POSITIVA

$$AS = \frac{3(7,1 - 10,4)}{\sqrt{16}} = \frac{3(3,3)}{4} = |2,475|$$

B  $\rightarrow$  Média < Mediana = NEGATIVA

$$AS = \frac{3(8,3 - 10,4)}{\sqrt{25}} = \frac{3(2,1)}{5} = |1,266|$$

FORTE

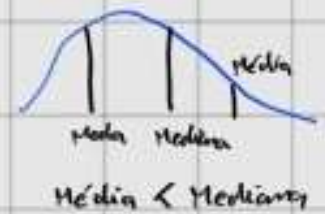
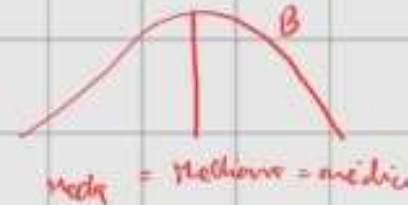
B

4)  $\frac{420}{6} = 70$

50 60 70 80 90

Q2 =  $2 \cdot \frac{n}{4} = \frac{6}{2} = 3$

6)



5)

4 / 1 / 3 / 2

7)  $P_1 = \frac{n}{4} = \frac{100}{4} = 25 \rightarrow 4 - 8$

$$Q_1 = 4 + 4 \left[ \frac{25 - 5}{20} \right]$$

$$Q_1 = 4 + 4 [1] = 8$$

TEMPO ATÉ CONSEGUIR EMPREGO (meses)	NÚMERO DE FORMADOS
0 - 4	5 $\rightarrow$ 0-5
4 - 8	20 $\rightarrow$ 6-25
8 - 12	40 $\rightarrow$ 26-65
12 - 18	25 $\rightarrow$ 66-90
18 - 22	10 $\rightarrow$ 91-100
TOTAL	100

8)

$$\bar{X} = \frac{1105}{100} = 11,05$$

9)

