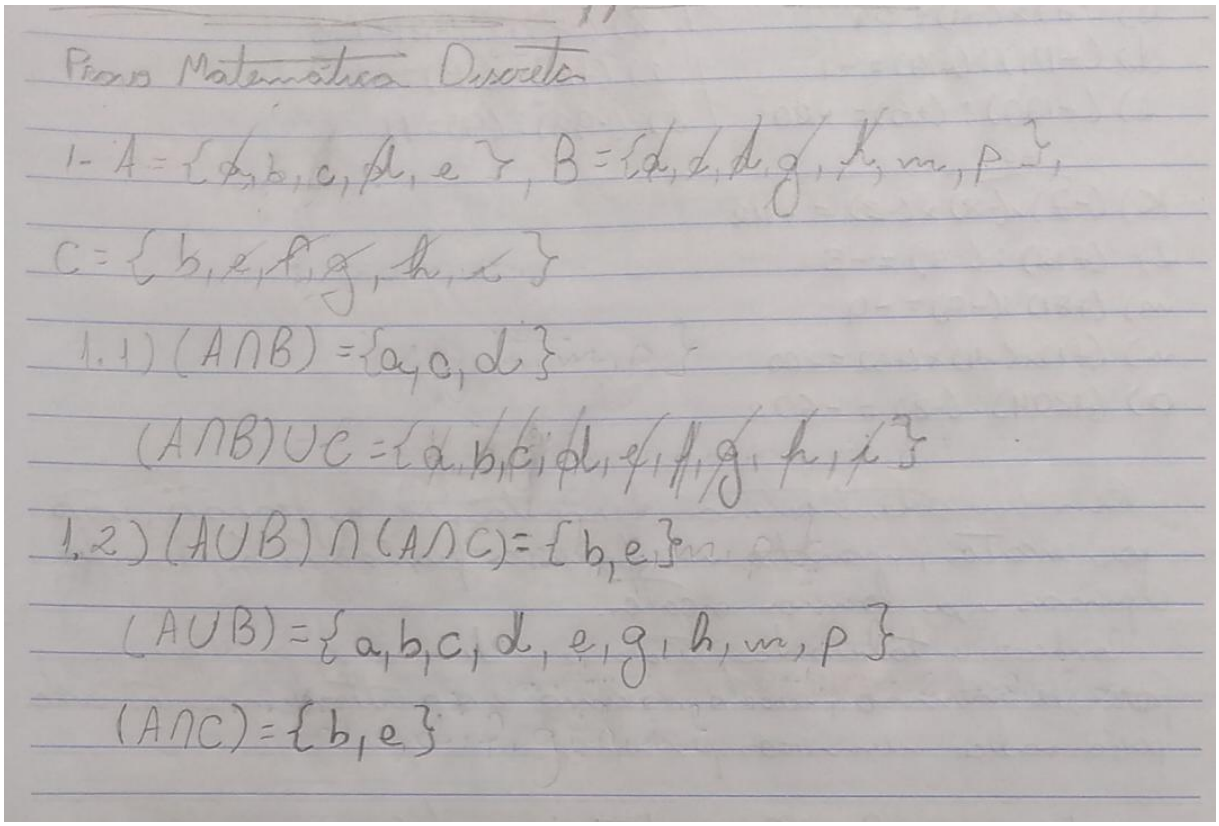
# PROVA MATEMÁTICA DISCRETA CORREÇÃO



Prova Matemática Discreta

1- $A = \{a, b, c, d, e\}$, $B = \{d, e, h, g, k, m, p\}$,

$C = \{b, e, f, g, h, i\}$

1.1) $(A \cap B) = \{a, c, d\}$

$(A \cap B) \cup C = \{a, b, c, d, e, f, g, h, i\}$

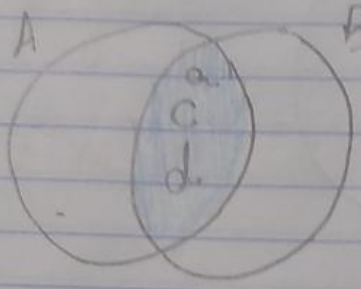
1.2) $(A \cup B) \cap (A \cap C) = \{b, e\}$

$(A \cup B) = \{a, b, c, d, e, g, h, m, p\}$

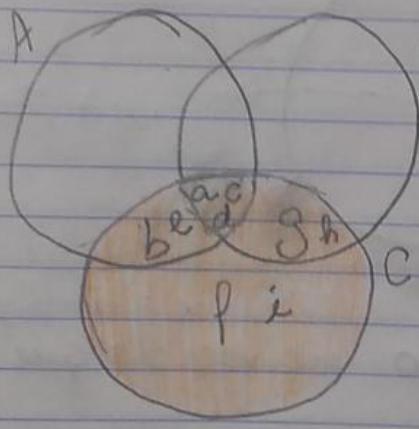
$(A \cap C) = \{b, e\}$

1.1) Diagrama de Venn

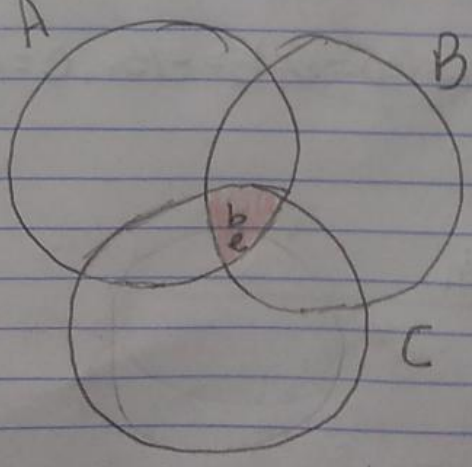
$(A \cap B)$



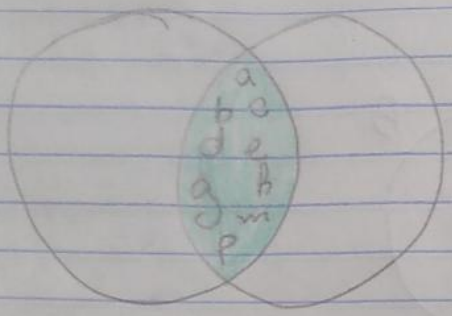

$(A \cap B) \cup C$



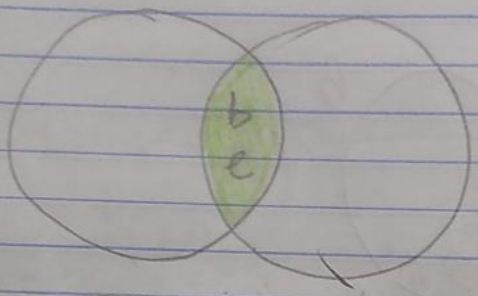

1.2) $(A \cup B) \cap (A \cap C)$



(A∪B)




(A∩C)




2) Não reconheci o diagrama, usei o da folha

2.1) $A = \{10, 6, 9, 4, 7, 1, 3, 2\}$
2.2) $B = \{30, 2, 3, 1, 5, 21, 8\}$
2.3) $C = \{15, 33, 22, 5, 1, 7, 4\}$
2.4) $A \cup C = \{10, 6, 9, 4, 7, 1, 3, 2, 5, 15, 33, 22\}$
2.5) $A \cap B = \{2, 3, 1\}$
2.6) $A \cup B \cup C = \{9, 6, 10, 30, 8, 21, 15, 33, 22, 4, 7, 5, 2, 3, 1\}$
2.7) $(A \cup B) \cap C = \{9, 6, 10, 30, 8, 21, 2, 3, 1, 4, 7, 5\}$
2.8) $(B \cap C) \cup (A \cap C) = \{4, 7, 5, 1\}$

3 $A = \{x \in N / x$ é primo, menor do que 25$\}$

$A = \{2, 3, 5, 7, 11, 13, 17, 19, 23\}$

$b = \{x \in R / 5x^2 + 3x = 18x\} =$

$5x^2 + 3x - 18x = 0$ $\quad a = 5, b = -15, c = 0$

$5x^2 - 15x = 0$

$\Delta = b^2 - 4.a.c$

$\Delta = (-15)^2 - 4.5.0$

$\Delta = 225 - 0$

$\Delta = 225$

$$x = \frac{-b \pm \sqrt{\Delta}}{2 \cdot a}$$

$$x = \frac{-(-15) \pm \sqrt{225}}{2 \cdot 5}$$

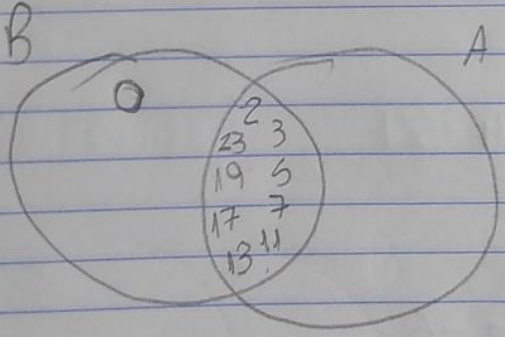
$$x = \frac{15 \pm 15}{10} \longrightarrow x' = \frac{30}{10} = 3$$

$$\longrightarrow x'' = \frac{15 - 15}{10} = \frac{0}{10} = 0$$

$B \cup A = \{0, 2, 3, 5, 7, 11, 13, 17, 19, 23\}$

$(B \cup A) \cap A \{2, 3, 5, 7, 11, 13, 17, 19, 23\}$

$A = \{2, 3, 5, 7, 11, 13, 17, 19, 23\}$
$B = \{0, 3\}$



data
fecha

$21 \times 4 = 84$ $\quad$ $18 \times 6 = 106$ $\quad$ $18 \times 4 = 72$

4- Determinar $x$ e $y$ tal que

$$\begin{cases} \frac{1}{2}x + 5y = 2y + 2 \\ -7x + \frac{3}{4}y + \frac{1}{3}x - 5 \end{cases}$$

$$\downarrow$$

$$\begin{cases} \frac{1}{2}x + 5y - 2y = 2 \quad \times 2 \longrightarrow \\ -7x + \frac{1}{3}x + \frac{3}{4}y = -5 \end{cases}$$

$$\downarrow$$

$$\begin{cases} x + 10y - 4y = 4 \\ -21x + 3x + \frac{3}{4}y = -5 \end{cases}$$

$$\begin{cases} x + 10y - 4y = 4 \\ -18x + \frac{3}{4}y = -5 \end{cases}$$

$\overset{3}{18} \times 4 = 72$ $\quad 180 - 72 = 108$ $\quad \overset{5}{10}8 \times 4 = 432$

data fecha

$$\begin{cases} 18x + 108y = 72 \\ -18x + \frac{3}{4}y = -5 \end{cases} \longrightarrow 18x + 108y = 72$$

$18x = 72 - 108y$ $\left(\frac{72}{410}\right)$

$108y + \frac{3}{4}y = 72 - 5$

$18x = 72 - \frac{7776}{410}$

$\frac{432y + 12y}{4} = 72$

$18x = 72 - 7776$

$18x = 7704$

$410y = 72$

$y = \frac{72}{410}$

$x = \frac{7704}{18}$

$x = 428$

410 | 2
205 | 5
41 | 41
1 |