

EDA 2

1) 4) Buscar área de un triángulo

$$A = (2, 1, 3)$$

$$\text{Area} = [9]$$

$$B = (3, 1, -1)$$

$$C = (2, 1, 1)$$

$$\vec{BA} = (2, 1, 3) - (3, 1, -1) = (-1, 0, 4)$$

$$\vec{BC} = (2, 1, 1) - (3, 1, -1) = (-1, 0, 2)$$

$$\vec{BA} \times \vec{BC} = \begin{vmatrix} i & j & k \\ -1 & 0 & 4 \\ -1 & 0 & 2 \end{vmatrix} = i(0-0) - j[-2 - (-20)] + k(0-0)$$

$$i(0) - j(18) + k(0) = -18j$$

$$|\vec{BA} \times \vec{BC}| = \sqrt{(-18)^2} = 18 \Rightarrow \frac{18}{2} = [9]$$

B) Ver si son paralelos, ortogonales o ninguno

$$\vec{u} = (0, 1, 3)$$

$$\vec{u} = K\vec{v}$$

$$\vec{v} = (4, -3, 1)$$

$$(0, 1, 3) = K(4, -3, 1)$$

$$(0, 1, 3) = (4K, -3K, K)$$

$$0 = 4K \Rightarrow 0 = K$$

$$1 = -3K \Rightarrow -\frac{1}{3} = K$$

$$3 = K \Rightarrow 3 = K$$

$$\left. \begin{array}{l} 0 = 4K \Rightarrow 0 = K \\ 1 = -3K \Rightarrow -\frac{1}{3} = K \\ 3 = K \Rightarrow 3 = K \end{array} \right\} \text{No es Paralelo}$$

ortogonal:

$$\vec{u} \cdot \vec{v} = 0 + (-3) + 3 = 0$$

Es ORTOGONAL

$$\cos \theta = \frac{\vec{u} \cdot \vec{v}}{|\vec{u}| |\vec{v}|}$$

$$\cos \theta = \frac{0}{|\vec{u}| |\vec{v}|} \Rightarrow \cos \theta = 0$$

$$\theta = 90^\circ$$

$$2) (P \leftrightarrow Q) \vee (R \wedge Q)$$

$$(\underbrace{V \leftrightarrow V/F}_{V/F}) \vee (\underbrace{F \wedge V/F}_{V/F})$$

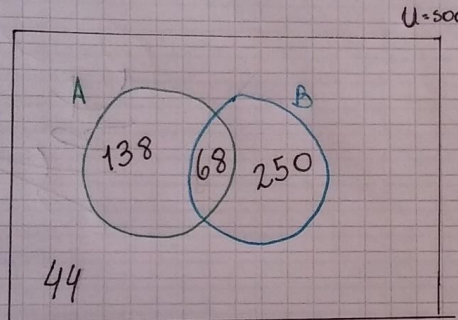
$$V/F \vee V/F$$

$$V/F$$

No son suficientes

Entonces:  $P \Rightarrow R$  es F  
 $P$  es V  
 $R$  es F

3)



$$500 - 44 = 456 \} A \cup B$$

$$456 - 138 = 318 \} \rightarrow A \cap B + B$$

$$318 - (206 - 138) = 250$$

$\downarrow$   $\downarrow$   $\downarrow$   
 $A \cap B$  solo A solo B

a) 250 Personas consumían B

$$b) 138 + 250 = \underline{388}$$

388 personas consumían por lo menos uno de los dos productos

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