

EDA 2

1) A) Buscar área de un triángulo

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

$$\text{Área} = [9]$$

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

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

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

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

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

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

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

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

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

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

$$\theta = 90^\circ$$

$$2) (p \Leftrightarrow q) \vee (r \wedge q)$$

V	V	V	V	F	F	V
	(V)		(V)		(F)	
			(V)			

$$p \Rightarrow r \text{ es } F$$

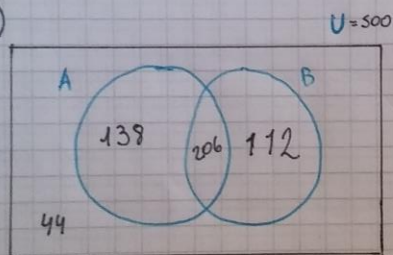
\downarrow	\downarrow
V	F

$$(p \Leftrightarrow q) \vee (r \wedge q)$$

V	F	F	F	F	F	F
	(F)				(F)	
			(F)			

No es suficiente

3)



$$500 - 44 = 456 \quad \{ A \cup B$$

$$456 - 138 = 318 \quad \{ A \cap B + B$$

$$318 - 206 = \underline{112} \quad \{ B$$

a) 112 consumo B

$$b) 138 + 112 + 206 = \underline{456}$$

456 Personas consumen al menos uno de los 2 productos

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[Redacted]

[Redacted]