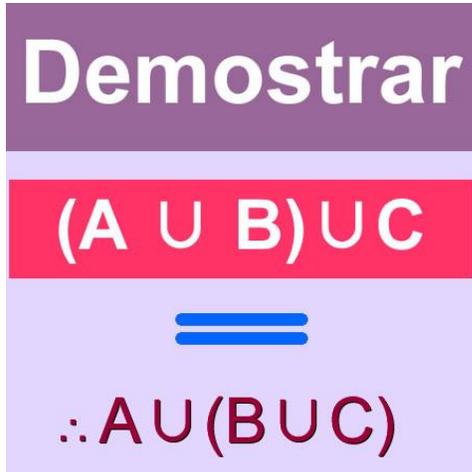


Hacer uso de las definiciones y teoremas de conjuntos para demostrar:

$$(A \cup B) \cup C = A \cup (B \cup C)$$



The diagram consists of three stacked rectangular boxes. The top box is purple and contains the word "Demostrar" in white. The middle box is red and contains the expression $(A \cup B) \cup C$ in white. The bottom box is light purple and contains the expression $\therefore A \cup (B \cup C)$ in dark purple. A blue double-line equals sign is positioned between the middle and bottom boxes.

Solución:

Sea $x \in (A \cup B) \cup C$	Definición general
$x \in (A \cup B) \vee x \in C$	Definición unión
$(x \in A \vee x \in B) \vee x \in C$	Definición unión
$x \in A \vee (x \in B \vee x \in C)$	Ley asociativa disyunción
$x \in A \vee x \in B \cup C$	Definición unión
$x \in A \cup (B \cup C)$	Definición unión
$\therefore (A \cup B) \cup C = A \cup (B \cup C)$	

