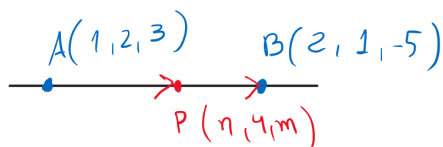


Sabendo que o ponto $P(n,4,m)$ pertence à reta que passa pelos pontos $A(1,2,3)$ e $B(2,1,-5)$, calcule m e n .

①



$$\vec{AP} + \vec{PB} = \vec{AB}$$

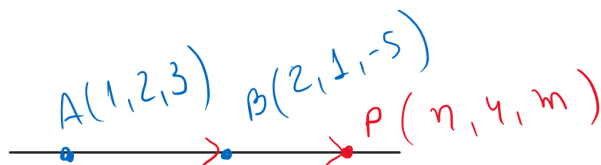
$$(P-A) + (B-P) = (B-A)$$

$$(n,4,m) - (1,2,3) + (2,1,-5) - (n,4,m) = (2,1,-5) - (1,2,3)$$

$$(n-1, 2, m-3) + (2-n, -3, -5-m) = (1, -1, -8)$$

$$(1, -1, -8) = (1, -1, -8) \rightarrow \begin{cases} n=0 \\ m=0 \end{cases}$$

②



$$\vec{AP} = \vec{AB} + \vec{BP}$$

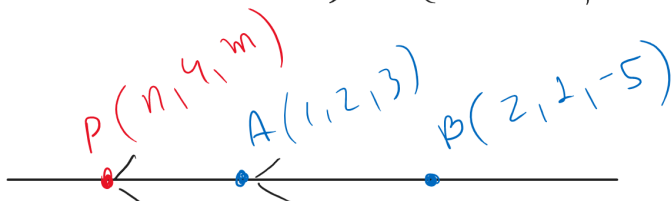
$$P-A = (B-A) + (P-B)$$

$$(n,4,m) - (1,2,3) = (2,1,-5) - (1,2,3) + (n,4,m) - (2,1,-5)$$

$$(n-1, 2, m-3) = (1, -1, -8) + (n-2, 3, m+5)$$

$$(n-1, 2, m-3) = (n-1, 2, m-3) \rightarrow \begin{cases} \underline{\underline{n=0}} \\ \underline{\underline{m=0}} \end{cases}$$

③



$$\vec{BP} = \vec{BA} + \vec{AP} \rightarrow \begin{cases} n=0 \\ m=0 \end{cases}$$