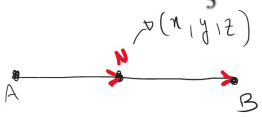
Atividade Vetores - Prof. Kalasas

Questão 32

32) Dados os pontos A(3, -4, -2) e B(-2, 1, 0), determinar o ponto N pertencente ao segmento AB tal que $\overline{AN} = \frac{2}{5}\overline{AB}$.



$\overrightarrow{AN} = \frac{2}{5} \cdot (\overrightarrow{AB}) \iff N - A = \frac{2}{5} \cdot (B - A) \iff$

$(x, y, z) - (3, -4, -2) = \frac{2}{5} \cdot ((-2, 1, 0) - (3, -4, -2))$

$(x-3, y+4, z+2) = \frac{2}{5} \cdot (-5, 5, 2) \iff$

$(x-3, y+4, z+2) = (-2, 2, 4/5) \iff$

$x - 3 = -2 \quad | \quad y + 4 = 2 \quad | \quad z + 2 = \frac{4}{5}$

$x = 1 \quad | \quad y = -2 \quad | \quad z = -\frac{6}{5}$

$N = (1, -2, -\frac{6}{5})$