Answer on Question #74191 – Math – Linear Algebra

Question

If a and b are non-collinear vectors and A = (x+y)a + (2x + y+1)b. Find x and y.

Solution

$(x+y)\bar{a}+(2x+y+1)\bar{b}=0;$

Because vectors $\bar{a}$ and $\bar{b}$ are non-collinear,

$$\begin{cases} x+y=0, \\ 2x+y+1=0; \end{cases}$$

$$\begin{cases} x=-y, \\ 2x+y+1=0; \end{cases}$$

$2(-y)+y+1=0;$

$-2y+y+1=0;$

$-y=-1;$

$y=1;$

$x=(-y)=-1.$

Answer: $x= -1;\ y=1.$