(17) $A_{\square}$

$\bar{a}=(7,-1,1)$

$\bar{b}=(1,4,-2)$

$A_{\square}=|\bar{a}\times\bar{b}|$

$$\bar{a}\times\bar{b}=\begin{vmatrix}\bar{i}&\bar{j}&\bar{k}\\7&-1&2\\1&4&-2\end{vmatrix}=(-6,16,29)$$

$|\bar{a}\times\bar{b}|=\sqrt{36+16^2+29^2}=33'66u^2$

abr 18-14:02

(18) $\bar{u}=(2,3,1)$

$\bar{v}=(-1,3,0)$

$\bar{w}\perp\bar{u},\bar{v}$

$|\bar{w}|=1$

MODO 1 BUENO

$\bar{u}\times\bar{v}$ $\times\bar{u}$ $\bar{v}$

$$\bar{u}\times\bar{v}=\begin{vmatrix}\bar{i}&\bar{j}&\bar{k}\\2&3&1\\-1&3&0\end{vmatrix}=(-3,-1,9)$$

$|\bar{u}\times\bar{v}|=\sqrt{9+1+81}=\sqrt{91}$

Sol $\bar{w}=\pm\left(\frac{-3}{\sqrt{91}},\frac{-1}{\sqrt{91}},\frac{9}{\sqrt{91}}\right)$

MODO 2 $\bar{w}=(x,y,z)$

$\bar{w}\perp\bar{u}\Rightarrow\bar{w}\bar{u}=0$ $2x+3y+4z=0$

$\bar{w}\perp\bar{v}\Rightarrow\bar{w}\bar{v}=0$ $-x+3y=0$

$|\bar{w}|=1\Rightarrow$ $\sqrt{x^2+y^2+z^2}=1$

abr 18-14:08

(19) $\bar{w}$?

$\bar{u}(1,-1,0)$

$\bar{v}(2,0,1)$ $\Big]\perp\bar{w}\Rightarrow\bar{u}\times\bar{v}=\begin{vmatrix}\bar{i}&\bar{j}&\bar{k}\\1&-1&0\\2&0&1\end{vmatrix}$

$(-1,-1,2)\,||$

$(-\alpha,-\alpha,2\alpha)$

$|\bar{w}|=\sqrt{24}$

$\sqrt{\alpha^2+\alpha^2+4\alpha^2}=\sqrt{24}$

$6\alpha^2=24$ $\alpha=\pm2$

$(-2,-2,4)$

$(2,2,-4)$

$\bar{u}\times\bar{v}$ $\bar{u}$ $\bar{v}$

abr 18-14:11

(20)

$$[\bar{u},\bar{v},\bar{w}]=\begin{vmatrix}1&-3&2\\1&0&-1\\2&3&0\end{vmatrix}=15$$

(22) $V_{\square}=|[\bar{a},\bar{b},\bar{c}]|$

$$[\bar{a},\bar{b},\bar{c}]=\begin{vmatrix}3&-1&1\\1&7&8\\8&1&-4\end{vmatrix}=-111$$

$V=|-111|=111\,u^3$

abr 18-14:16

(23) $\bar{u}=(2,-3,1)$
$\bar{v}\ (1,m,3)$
$\bar{w}\ (-4,5,-1)$

$[\bar{u},\bar{v},\bar{w}]=0$

$$\begin{vmatrix} 2 & -3 & 1 \\ 1 & m & 3 \\ -4 & 5 & -1 \end{vmatrix} = 0$$

$2m+8=0$ $\boxed{m=-4}$

c

abr 18-14:17