quindi:

$ax + by + cz \underbrace{- ax_0 - by_0 - cz_0}_{} = 0$

└▷ TERMINE NOTO (d)

$ax + by + cz + d = 0$

ATTENZIONE

$ax + by + cz + d = 0$ I parametri non possono essere tutti contemporaneamente uguali a zero

$A(x_A; y_A; z_A)$; $B(x_B; y_B; z_B)$; $C(x_C; y_C; z_C)$

$A(1;0;0)$; $B(0;-3;1)$; $C(2;-2;0)$

$$\begin{cases} a \cdot 1 + b0 + c \cdot 0 + d = 0 \\ a \cdot 0 + b(-3) + c \cdot 1 + d = 0 \\ a \cdot 2 + a(-2) + c \cdot 0 + d = 0 \end{cases} \begin{cases} a + d = 0 \\ -3b + c + d = 0 \\ 2a - 2b + d = 0 \end{cases} \begin{cases} d = -a \\ -3b + c + d = 0 \\ 2a - 2b - a = 0 \end{cases} \begin{cases} d = -a \\ -3b + c + d = 0 \\ b = \frac{a}{2} \end{cases} \begin{cases} d = -a \\ -\frac{3}{2}a + c - a = 0 \\ b = \frac{a}{2} \end{cases}$$

$$\begin{cases} d = -a \\ c = \frac{5}{2}a \\ b = \frac{a}{2} \end{cases} \rightarrow ax + \frac{a}{2}y + \frac{5}{2}az - a = 0$$

$x + \frac{y}{2} + \frac{5}{2}z - 1 = 0$

$\boxed{2x + y + 5z - 2 = 0}$

$\vec{v} = -2\vec{i} + 3\vec{j} + \vec{k}$

$\vec{w} = -\vec{i} - \vec{j} + 4\vec{k}$

$\vec{v} + \vec{w} = ?$ → $\vec{v} + \vec{w} = -3\vec{i} + 2\vec{j} + 5\vec{k}$

$\vec{v} \cdot \vec{w} = ?$ → $\vec{v} \cdot \vec{w} = -2(-1) + 3(-1) + 1 \cdot 4 = 2 - 3 + 4 = 3$

$\vec{v} \times \vec{w} = ?$ → $\vec{v} \times \vec{w} = \begin{vmatrix} \vec{i} & \vec{j} & \vec{k} \\ -2 & 3 & 1 \\ -1 & -1 & 4 \end{vmatrix} = [3 \cdot 4 - 1(-1)]\hat{i} - [(-2) \cdot 4 - 1(-1)]\vec{j} + [(-2)(-1) - 3(-1)]\vec{k} =$

$= 13\hat{i} + 7\vec{j} + 5\vec{k}$