Даны координаты вершин пирамиды: О(0; 0; 0), К( 6;-4; 0), L(10; 8; 1), М (2; -6; 6) .

Координаты векторов находим по формуле:  
X = xj - xi; Y = yj - yi; Z = zj - zi.  
здесь X,Y,Z координаты вектора; xi, yi, zi - координаты точки Аi; xj, yj, zj - координаты точки Аj.  
Например, для вектора OK  
X = x2 - x1; Y = y2 - y1; Z = z2 - z1.  
X = 6-0; Y = -4-0; Z = 0-0.  
OK(6;-4;0).  
OL(10;8;1).  
OM(2;-6;6).

Объем пирамиды, построенный на векторах a1(X1;Y1;Z1), a2(X2;Y2;Z2), a3(X3;Y3;Z3) равен:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| https://chart.googleapis.com/chart?cht=tx&chl=V%20=%20\frac%7b1%7d%7b6%7d | |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | X1 | Y1 | Z1 | | X2 | Y2 | Z2 | | X3 | Y3 | Z3 | |  | |  |

Подставляем координаты векторов OK, OL, OM.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| https://chart.googleapis.com/chart?cht=tx&chl=V%20=%20\frac%7b1%7d%7b6%7d | |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | 6 | -4 | 0 | | 10 | 8 | 1 | | 2 | -6 | 6 | |  | | https://chart.googleapis.com/chart?cht=tx&chl=%20=%20\frac%7b556%7d%7b6%7d%20=%2092.667 |

Здесь определитель матрицы равен:  
∆ = 6\*(8\*6-(-6)\*1)-10\*((-4)\*6-(-6)\*0)+2\*((-4)\*1-8\*0) = 556.