Тест №2.

Найти векторное произведение векторов 

Решение.

Векторное произведение векторов *a*(x1;y1;z1) и *b*(2;y2;z2), заданных своими координатам, находится по формуле:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| https://chart.googleapis.com/chart?cht=tx&chl=\overline%7ba%7dx\overline%7bb%7d%20= | |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | https://chart.googleapis.com/chart?cht=tx&chl=\overline%7bi%7d | https://chart.googleapis.com/chart?cht=tx&chl=\overline%7bj%7d | https://chart.googleapis.com/chart?cht=tx&chl=\overline%7bk%7d | | x1 | y1 | z1 | | x2 | y2 | z2 | |  | | = |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  |  | | --- | --- | | y1 | z1 | | y2 | z2 | |  | | https://chart.googleapis.com/chart?cht=tx&chl=\overline%7bi%7d%20- | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  |  | | --- | --- | | x1 | z1 | | x2 | z2 | |  | | https://chart.googleapis.com/chart?cht=tx&chl=\overline%7bj%7d%20%2B | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  |  | | --- | --- | | x1 | y1 | | x2 | y2 | |  | | https://chart.googleapis.com/chart?cht=tx&chl=\overline%7bk%7d%20= |

https://chart.googleapis.com/chart?cht=tx&chl=(y_%7b1%7dz_%7b2%7d%20-%20z_%7b1%7dy_%7b2%7d)\overline%7bi%7d%20%2B%20(z_%7b1%7dx_%7b2%7d%20-%20x_%7b1%7dz_%7b2%7d)\overline%7bj%7d%20%2B%20(x_%7b1%7dy_%7b2%7d%20-%20y_%7b1%7dx_%7b2%7d)\overline%7bk%7d  
**Задание**. Найти векторное произведение векторов a=(6;2;-1) и b(-4;3;-2).  
**Решение**. По формуле находим:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| https://chart.googleapis.com/chart?cht=tx&chl=\overline%7ba%7dx\overline%7bb%7d%20= | |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | https://chart.googleapis.com/chart?cht=tx&chl=\overline%7bi%7d | https://chart.googleapis.com/chart?cht=tx&chl=\overline%7bj%7d | https://chart.googleapis.com/chart?cht=tx&chl=\overline%7bk%7d | | 6 | 2 | -1 | | -4 | 3 | -2 | |  | | = |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  |  | | --- | --- | | 2 | -1 | | 3 | -2 | |  | | https://chart.googleapis.com/chart?cht=tx&chl=\overline%7bi%7d%20- | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  |  | | --- | --- | | 6 | -1 | | -4 | -2 | |  | | https://chart.googleapis.com/chart?cht=tx&chl=\overline%7bj%7d%20%2B | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  |  | | --- | --- | | 6 | 2 | | -4 | 3 | |  | | https://chart.googleapis.com/chart?cht=tx&chl=\overline%7bk%7d%20= |

https://chart.googleapis.com/chart?cht=tx&chl=\overline%7bi%7d%20%2B%2016\overline%7bj%7d%20%2B%2026\overline%7bk%7d

Ответ: С=*a*x*b*=*i+16j+26k*