Площадь треугольника

Пусть точки A1(x1; y1), A2(x2; y2), A3(x3; y3) - вершины треугольника, тогда его площадь выражается формулой:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| https://chart.googleapis.com/chart?cht=tx&chl=S%20=%20\frac%7b1%7d%7b2%7d | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  |  | | --- | --- | | x1-x3 | y1-y3 | | x2-x3 | y2-y3 | |  | |

В правой части стоит определитель второго порядка. Площадь треугольника всегда положительна.  
A(1;1) ; B(-3;-2) ; C(3;-4)  
**Решение**. Принимая A за первую вершину, находим:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  |  | | --- | --- | | x1-x3 | y1-y3 | | x2-x3 | y2-y3 | |  | | = | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  |  | | --- | --- | | 1 - 3 | 1 - (-4) | | -3 - 3 | -2 - (-4) | |  | | = |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  |  | | --- | --- | | -2 | 5 | | -6 | 2 | |  | | = -2\*2 - (-6)\*5 = 26 |

# По формуле получаем: https://chart.googleapis.com/chart?cht=tx&chl=S%20=%20\frac%7b1%7d%7b2%7d\cdot%20%20|26|%20=%2013