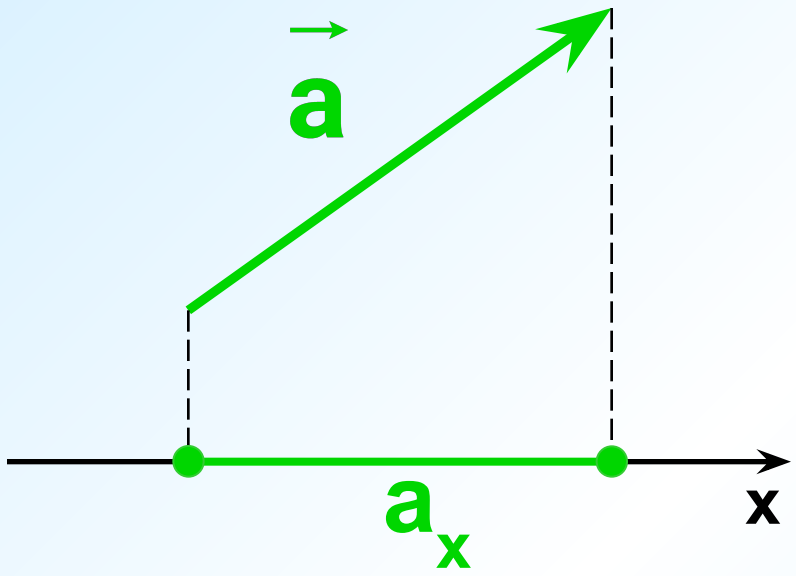
Проекции векто
на оси координ

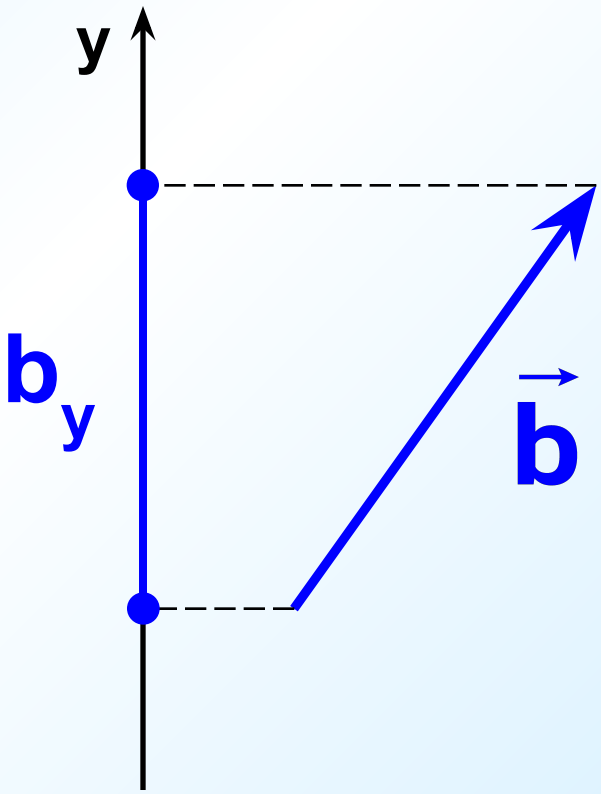
$\vec{a}$ – вектор

a_x – проекция вектора на ось ох

a – модуль вектора (длина вектора, числовое значение)

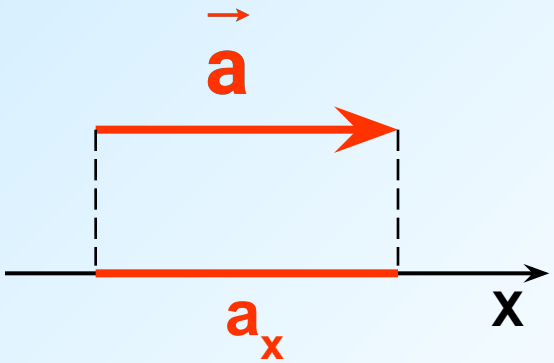
Что называют проекцией вектора?



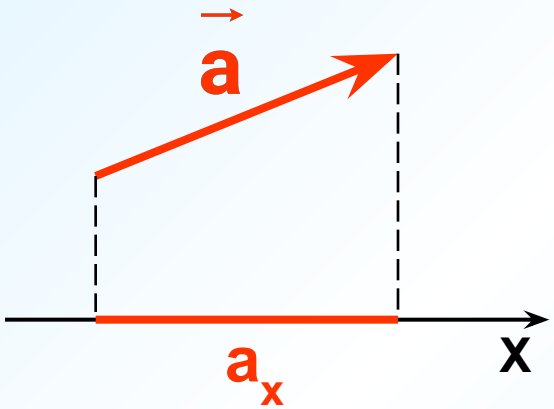


Проекцией вектора на данную ось называется отрезок, соединяющий проекцию начала вектора и проекцию конца вектора.

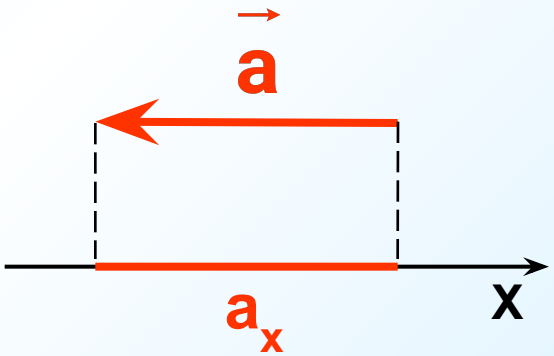
Соотношение между проекцией вектора и его модулем



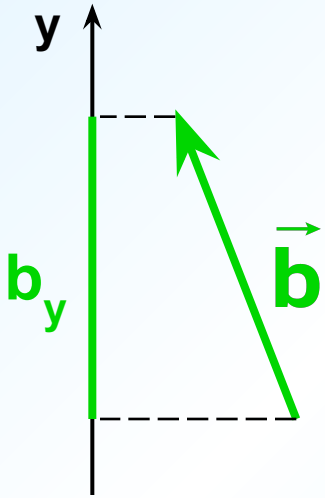
$a_x = a$



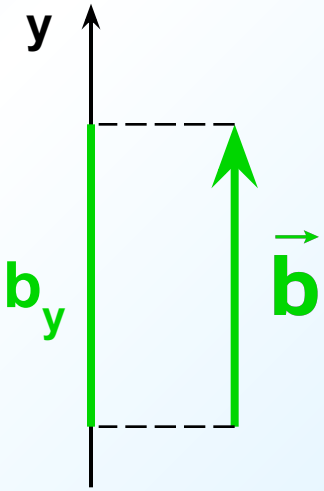
$a_x < a$



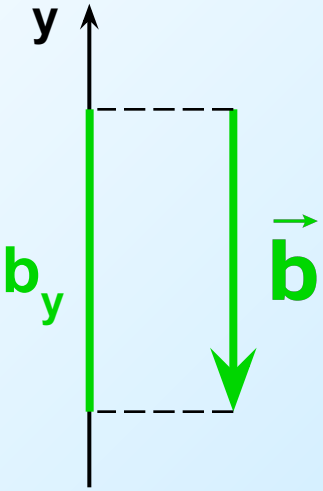
$a_x = -a$



$b_y < b$

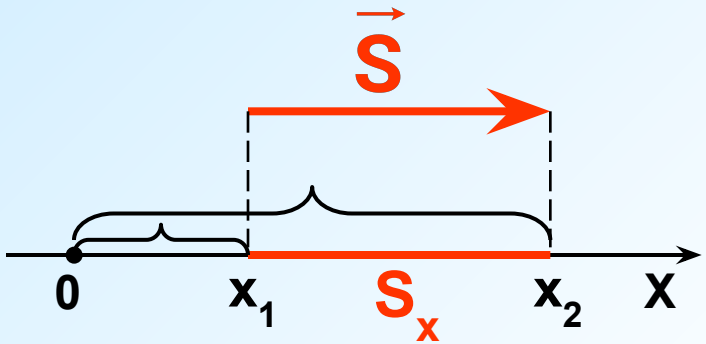


$b_y = b$



$b_y = -b$

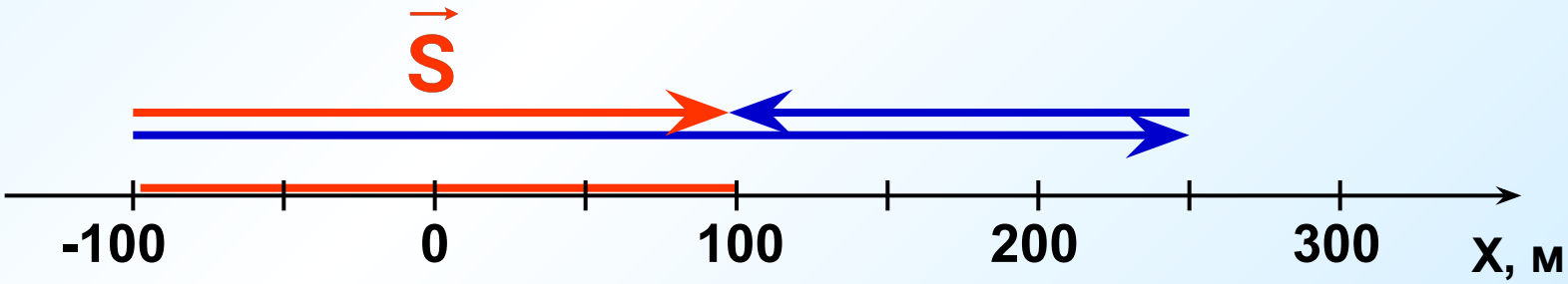
Расчёт проекции вектора перемещения



$$S_x = x_2 - x_1 \quad \text{или}$$

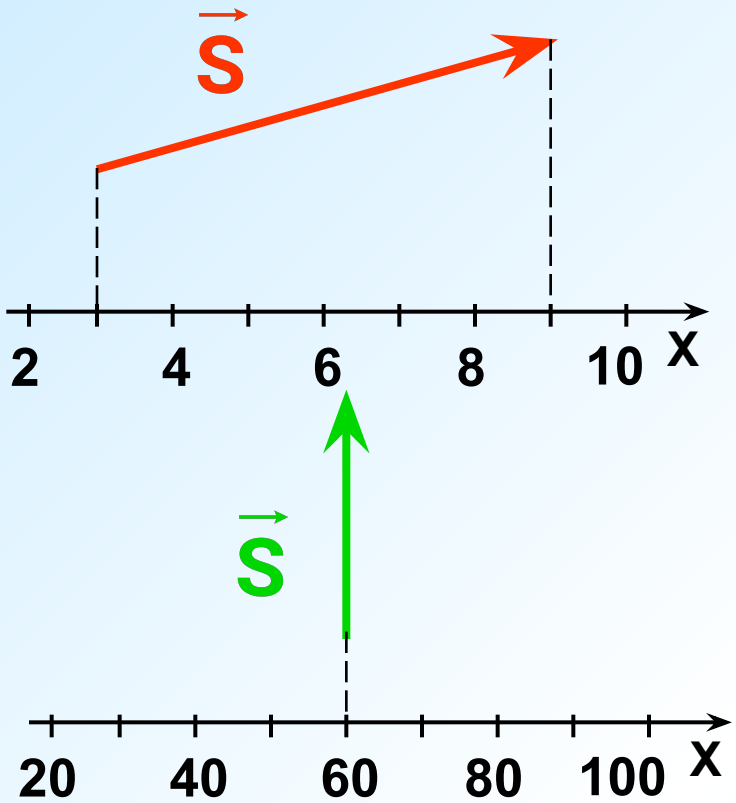
$$S_x = x - x_o$$

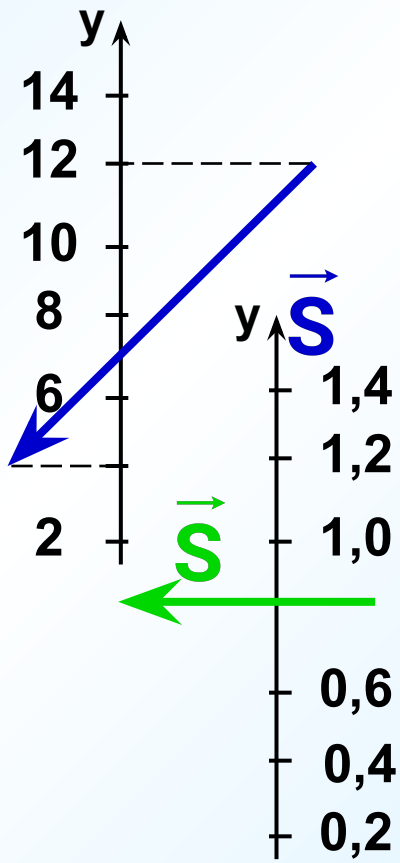
Чтобы рассчитать проекцию вектора перемещения на данную ось, надо из координаты конца вектора вычесть координату начала вектора.



l = 350 м + 150 м = 500 м

Sx = 100 м – (– 100 м) = 200 м

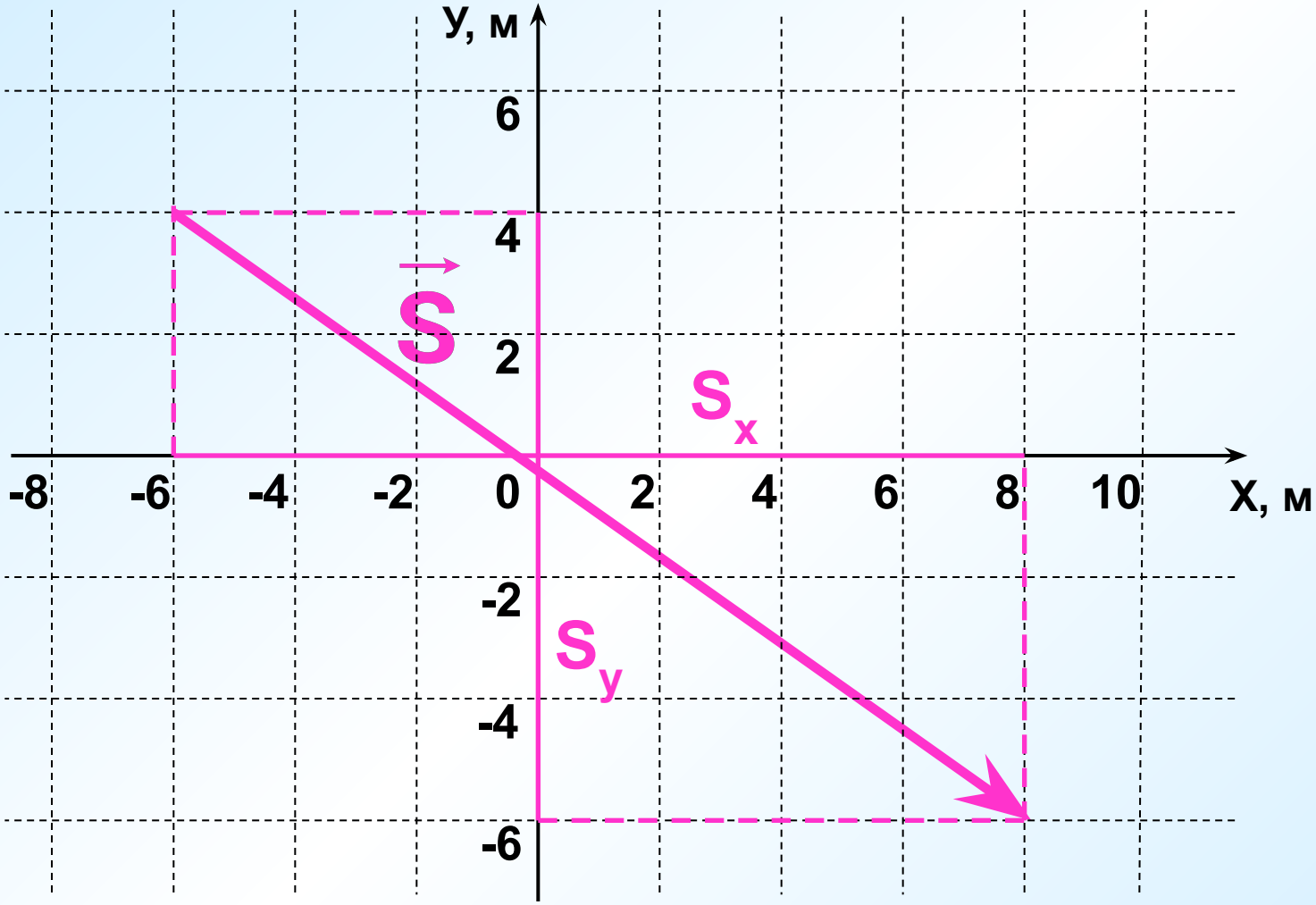




$S_x = 60$ м – 60 м = 0

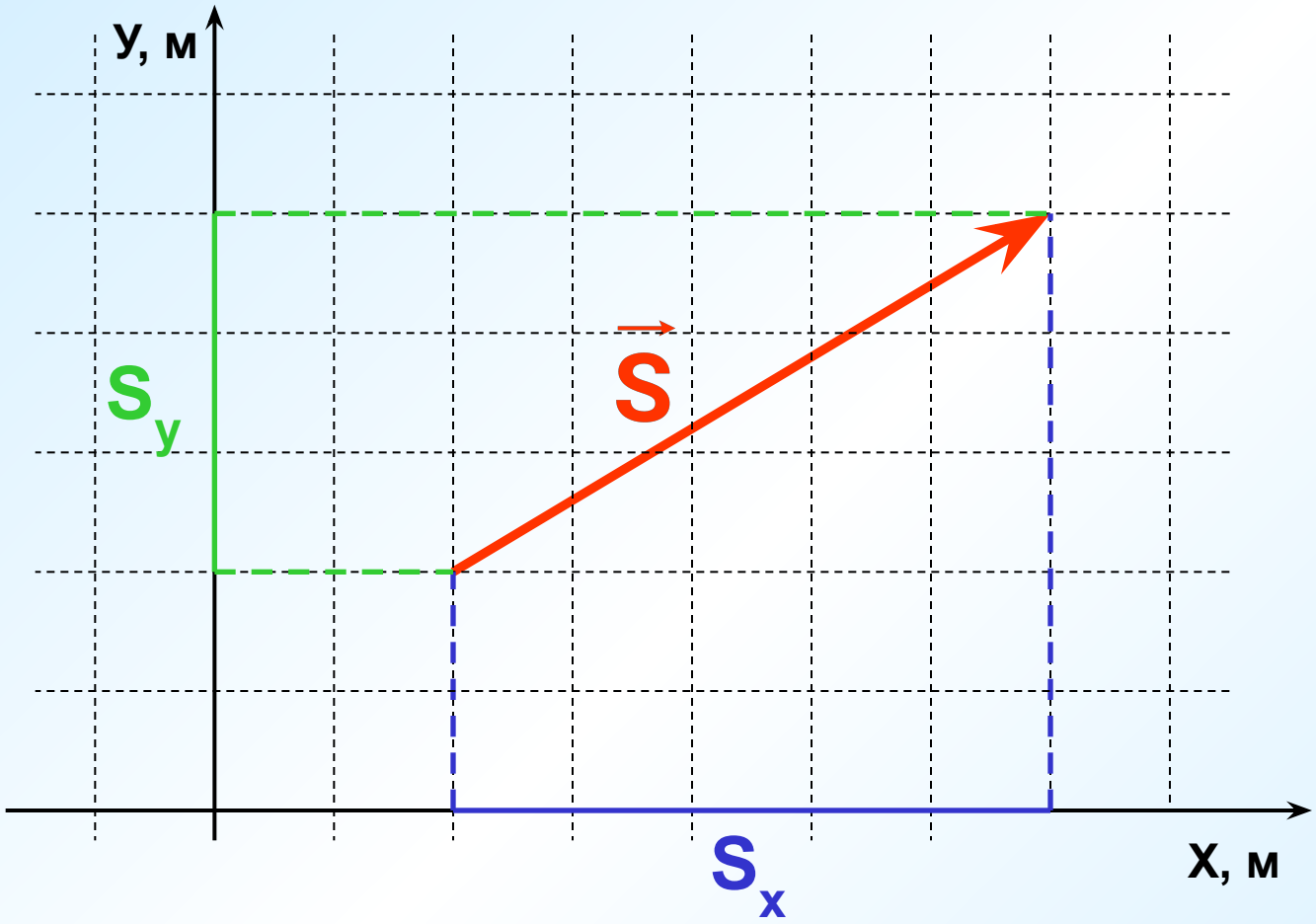
$S_y = 0{,}8$ м – 0,8 м = 0

Если $\vec{S} \perp ox$, то $S_x = 0$



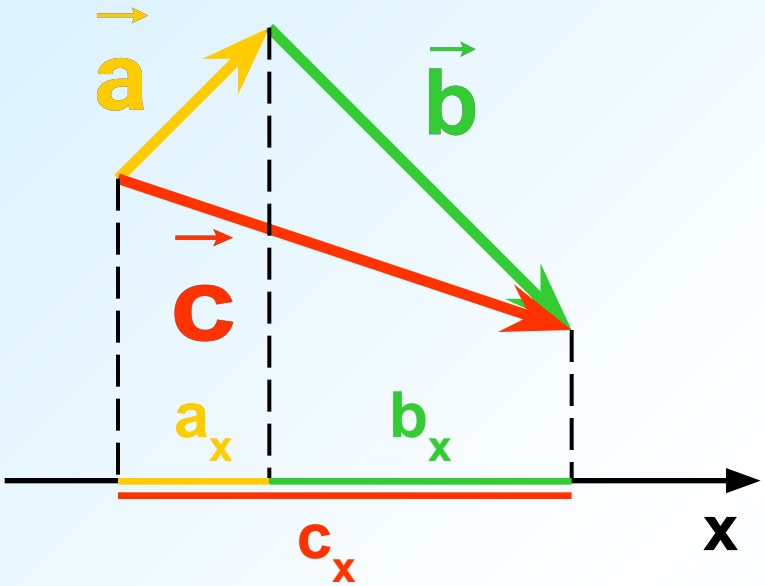
S_x =8м – (– 6м) = 14м

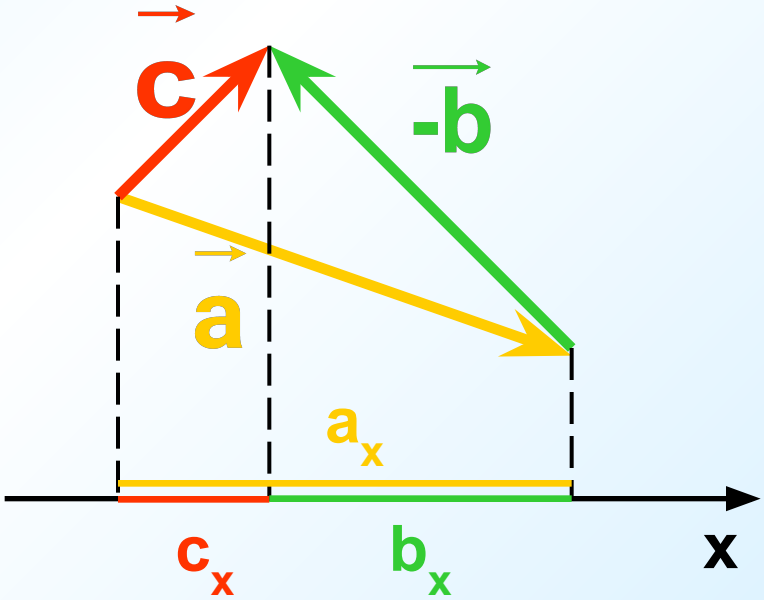
S_y = – 6м – 4м = – 10м



$$S^2 = S_x^{\,2} + S_y^{\,2}$$

Проекции суммы и разности векторов





$$\vec{c} = \vec{a} + \vec{b}$$

$$\vec{c} = \vec{a} - \vec{b}$$

$$c_x = a_x + b_x$$

$$c_x = a_x - b_x$$