



## SPACE INNER PRODUCT

### Why

We want to measure angles in space.<sup>1</sup>

### Definition

The *space inner product* (or *dot product*, *scalar product*) of two real vectors  $x, y \in \mathbf{R}^3$  is

$$x_1y_1 + x_2y_2 + x_3y_3$$

### Notation

We denote the inner product of  $x$  and  $y$  by  $\langle x, y \rangle$ .

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<sup>1</sup>Future editions will include pictures.



