

Multiplying a Vector by a Scalar

Multiplying a vector by a scalar results in a new vector

Magnitude of the new vector:

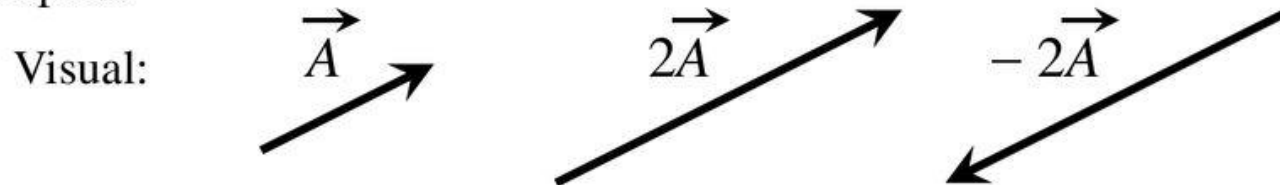
The product of the original vector's magnitude and the scalar's magnitude.

Direction of the new vector:

Direction is the same if the scalar is positive.

Direction is the opposite if the scalar is negative.

Examples:



Equation:

$$\vec{s} = \vec{v} t$$

Multiplying the velocity vector by the scalar time results in the displacement vector.