

1.1-Vectors

Definitions:

vector:

addition

scalar multiplication

indent subtraction

magnitude:

unit vector:

i and **j**:

Examples:

Find the components of the vector which begins at the point $(5, 2)$ and ends at the point $(-1, 3)$. Then find a unit vector parallel to this vector.

Given $\mathbf{a} = \langle 5, 2 \rangle$ and $\mathbf{b} = -2\mathbf{i} + 4\mathbf{j}$, find each of the following:
 $\mathbf{a} + \mathbf{b}$, $\mathbf{a} - \mathbf{b}$. $2\mathbf{a}$. $3\mathbf{a} + 4\mathbf{b}$.

Two people are to pull ropes attached to a 50kg box (on a frictionless surface) as shown in the figure given in class. With what force does each person have to pull in order to have the box accelerate straight ahead at 0.5 meters per second squared?

On Your Own: #1,3,5,9,15,17,23,27,30