

# Vectors & Scalars

Scalar: Magnitude Only

Vector: Magnitude + direction

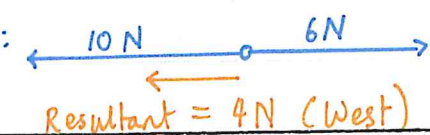
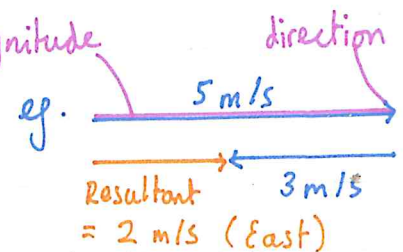
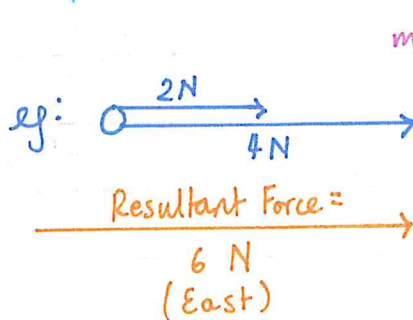
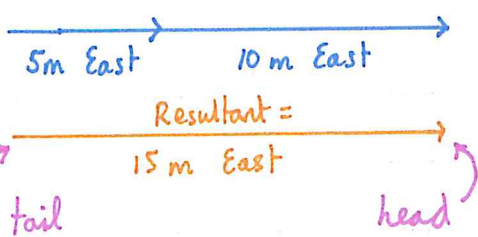
- length
- area
- volume
- time
- frequency
- mass
- density
- pressure
- energy
- work
- power
- temperature
- electric charge
- electric current
- resistance
- potential difference

- displacement
- velocity
- acceleration
- momentum
- force
- electric field strength
- magnetic flux density

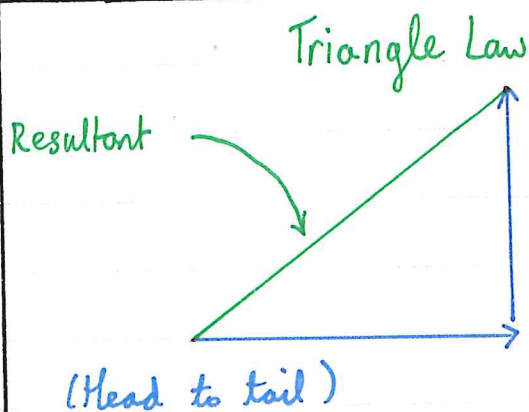
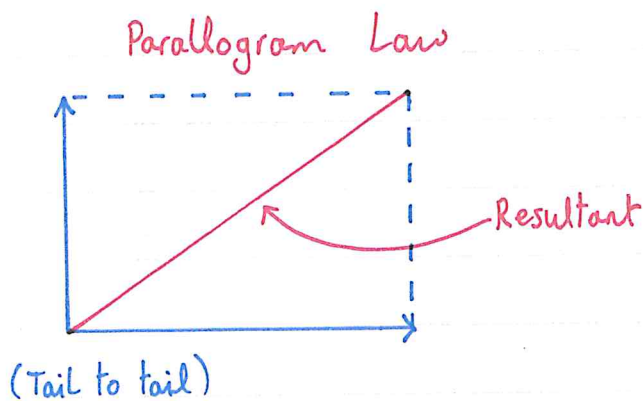
The resultant is the combined effect of two or more quantities.

Vectors have no position.

Any line equal in length and parallel to it could be used to represent the same vector.



\* Laws for finding the Resultants of Vectors:



~ Use Pythagoras' Theorem and Trigonometry with these Laws ~  
 \* Both Laws yield identical results \*

source of energy needed for metabolic rxns for growth and repair.

Nutrients are the chemical substances present in food that are used by organisms



The way in which an organism obtains + uses food

photosynthesis:



respiration:



# Nutrition Chp 3

5 elements present as dissolved salts: Na, Mg, Cl, K, Ca

3 trace elements: Fe, Zn, Cu

Compounds made from carbon - organic compounds

chemicals made in an organism contain carbon  
carbs, proteins, lipids, vitamins

Biomolecules:

autotroph: makes their own food  
eg. plants

heterotroph: can't make their own food  
eg. animals. (ii)

## Metabolism

All rxns that occur in living cells -

Anabolism (building)

making complex substances from simple ones.

photosynthesis



Catabolism (destroying)

breaking down complex substances into simple ones.



respiration

