Answer on Question #57368-Physics- Mechanics | Relativity

Contrast the metric units of distance, time, and speed. Describe the relationship between them.

Breaking it down into parts of,

Specific units of distance, time and speed.

Which are base units which are derived units.

How is speed derived?

Answer

The metric unit of distance is the meter:

$$[L] = m.$$

The metric unit of time is the second:

$$[T] = s.$$

The metric unit of speed is the meter per second:

$$[V] = \frac{[L]}{[T]} = \frac{m}{s}.$$

The meter and the second are base units. The meter per second is derived unit.

The speed can be derived as the rate at which someone or something moves or travels:

$$v = \frac{ds(t)}{dt},$$

where s is distance, t is time.