

Application of Calculus :

- Maxima and Minima
- Rates of change

Notes !!

- To calculate maximum or minimum
→ $f'(x) = 0$

$f(x) \rightarrow$ distance

$f'(x) \rightarrow$ speed / velocity / rate of change

$f''(x) \rightarrow$ acceleration

Also called optimisation problems:

- Area's, perimeters, volume's
↳ math related
- Displacement, velocity
↳ science related

* Steps:

- 1) Draw a sketch
- 2) Find measurements i.t.o 1 variable (x)
- 3) Write expression
- 4) Derivative
- 5) Let $f'(x) = 0$
- 6) Solve for x
- 7) Subs ' x '

* Know:

- Volume, Area, Perimeter and Surface Area formulas:

* Remember:

$$1 \text{ l} = 1000 \text{ cm}^3$$

$$1 \text{ kl} = 1000 \text{ l} \\ = 1 \text{ m}^3$$