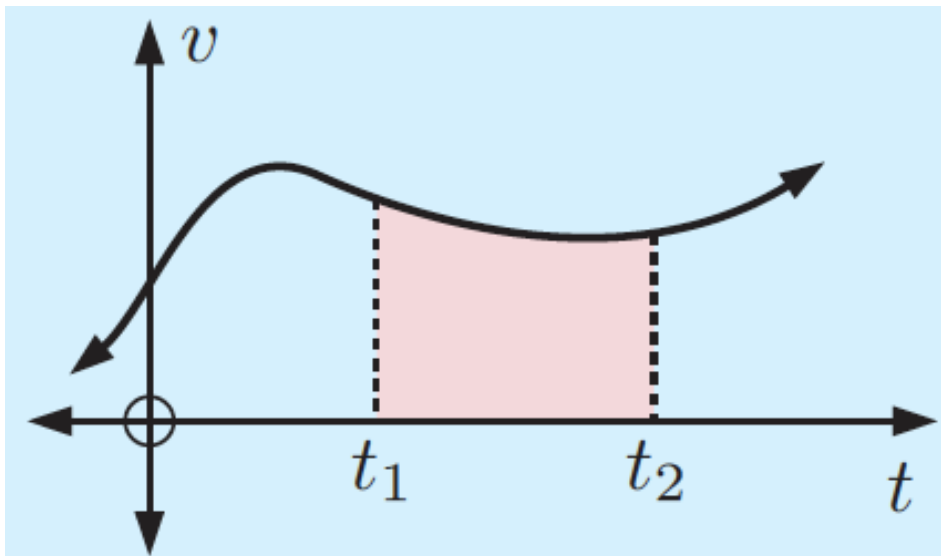


## Kinematic

$$\text{Displacement} = \int v(t) dt$$

$$\text{Distance} = \int_{t_1}^{t_2} v(t) dt = \text{The area below the curve}$$



$$\text{Velocity} = \int a(t) dt$$

1. A car moves in a straight line has velocity  $v \text{ km s}^{-1}$ .

Find the expression of displacement  $s \text{ km}$  at time  $t$  seconds.

The velocity  $v$  is given by  $v(t) = 6e^{2t} + t$ . When  $t = 0, s = 10$ .

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

2. A particle moves in a straight line with velocity function

$v(t) = \cos t \text{ m s}^{-1}$ . Find the distance travelled from  $t = 0$  to

$t = \frac{\pi}{2}$ .

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---







