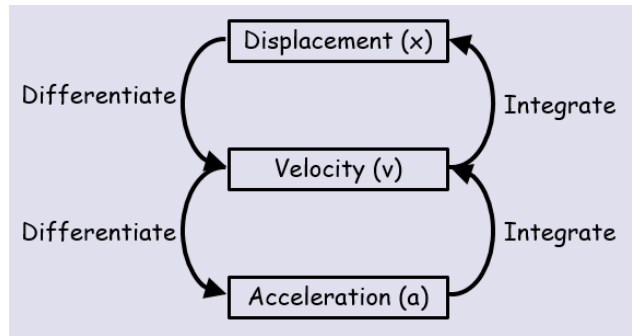


11B Differentiating between x, v, a



1. A particle P is moving along the x-axis. At time t seconds, the displacement x metres from O is given by:

$$x = t^4 - 32t + 12$$

Find:

- a) The speed of P when $t = 3$

b) The value of t for which P is instantaneously at rest

c) The magnitude of acceleration when $t = 1.5$