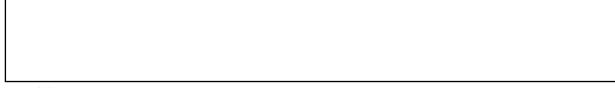
## 3.2 Acceleration

Acceleration -

$$a(t) =$$

Since velocity is the derivative of the position function s=f(t), it follows that:



$$a(t) =$$

The position function of a person on a bicycle pedalling down a steep hill with steadily increasing effort in pedalling is  $s(t) = \frac{1}{6}t^3 + \frac{1}{2}t^2 + t$ , where s is measured in metres and t in seconds.

a) Find the velocity and acceleration as a function of time.

b) Find the acceleration at 2 seconds.

A negative acceleration  $a=v^{'}=s^{''}<0$  indicates that

A positive acceleration  $a=v^{'}=s^{''}>0$  indicates that