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