**Constant Acceleration Formulae**

In Chapter 9, we work out the various $suvat$ formulae by using a velocity-time graph.But it’s also possible to derive all of these using integration, provided that we consider that **acceleration is constant**.

Given a body has constant acceleration $a$, initial velocity $u$ and its initial displacement is 0 m, prove that:

1. Final velocity: $v=u+at$
2. Displacement: $s=ut+\frac{1}{2}at^{2}$

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