

The SUVAT Equations

Physics

The four kinematic equations, and when each is the right one.

Constant acceleration only. s , u , v , a , t .

Equation	Missing
$v = u + at$	s
$s = ut + \frac{1}{2}at^2$	v
$s = \frac{1}{2}(u + v)t$	a
$v^2 = u^2 + 2as$	t
$s = vt - \frac{1}{2}at^2$	u

These fail the moment acceleration is not constant. For varying acceleration you need calculus or a graph.