Corbettmaths

$s = vt - \frac{1}{2}at^2$

Mechanics

Video Tutorial

s - displacement (m)
u - final velocity (m/s)
t - time (seconds)
a - acceleration (m/s^2)

A drone flies in a straight line pass the points A and B.
The drone flies past A and is decelerating at a rate of $6m/s^2$
8 seconds later, the drone flies past the point B with a velocity of 1.5m/s.
Work out the distance travelled by the drone.

A motorbike accelerates at $0.45m/s^2$ along a straight road.
The motorbike passes two lampposts, that are 510m apart, in 20 seconds.
Find the speed at which the motorbike passes the second lamppost.

A cyclist cycles 76m from A to B with constant acceleration of $0.5m/s^2$
The cyclist reaches B with a speed of 18m/s.
Work out how long it took for the cyclist to travel from A to B.