Constant Acceleration Equations

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If acceleration is constant, use the CA equations.

- Velocity-Time Equation

$$v = v_0 + at$$

- Position-Time Equation

$$x = x_0 + v_0 t + \frac{1}{2} a t^2$$

- Position-Velocity Equation

$$v^2 = v_0^2 + 2a(x - x_0)$$

Meaning of symbols in CA equations

t	the time	independent variable
x	position at time t	dependent variable
v	velocity at time t	dependent variable
a	the constant acceleration	parameter
x_0	position at time 0	parameter
v_0	velocity at time 0	parameter

Throughout a motion, some symbols stay the same and some change.

t	the time	changing
x	position at time t	changing
v	velocity at time t	changing
a	the constant acceleration	constant
x_0	position at time 0	constant
v_0	velocity at time 0	constant