AP Physics C: Mechanics Equation Quiz 1 of 2 **Name:**_____

An object is undergoing constant acceleration. What equation describes its position as a function of time?

An object is undergoing constant acceleration. What equation describes its velocity as a function of time?

An object is undergoing constant acceleration. What equation describes its velocity as a function of displacement?

Newton's 2nd Law:

Newton's 3rd Law in equation form:

Force is related to momentum via what differential equation?

Impulse is the integral of what?

Linear momentum:

What's the general form of the equation that describe the velocity as a function of time for an object falling in viscous fluid (air or liquid)?

Conservation of linear momentum:

Friction (kinetic):

Friction (static):

Weight:

Hooke's Law:

Work is defined as the integral of...

Kinetic Energy:

Gravitational Potential Energy:

Spring/Elastic Potential Energy:

Conservation of Energy:

Conservation of Mechanical Energy:

Power is equal to what differential equation?

For an object moving at constant velocity, Power can be written as:

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Centripetal acceleration:

Centripetal acceleration:

Linear to Angular Quantity translations:

Arc length:

Tangential velocity:

Tangential acceleration:

Torque:

Newton's 2nd Law for Torques:

Rotational Inertia for a point mass:

Rotational Inertia for an extended object:

Center of mass for a system of point masses:

Angular momentum for a point mass:

Angular momentum for an extended object:

Rotational Kinetic Energy:

Equation of motion for SHM:

Solution for SHM Equation of motion:

Angular frequency in terms of frequency:

Period of a spring in SHM:

Period of a simple pendulum:

How is period related to frequency?

Gravitational Force between two masses:

Gravitational Potential Energy of two masses: