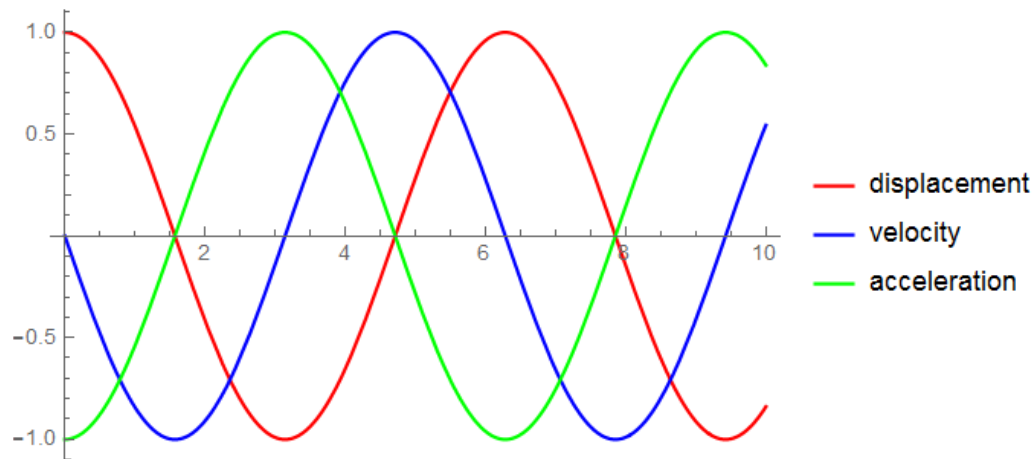# Answer on Question #65502, Physics / Mechanics | Relativity |

A simple harmonic motion is represented by *x(t) = cos t.* Obtain expressions for velocity and acceleration of the oscillator. Also, plot the time variation of displacement, velocity and acceleration of the oscillator.

Solution

$$v(t) = \frac{dx(t)}{dt} = -\sin t$$

$$a(t) = \frac{dv(t)}{dt} = -\cos t$$

Answer provided by