[07-10-02-T-Phy]

Position, velocity, acceleration

■ **A.**

[1] The position of a particle is given by $x(t) = 7\,m + 3\,t\,\frac{m}{s} - 2\,t^2\,\frac{m}{s^2}$.

[2] Write the velocity of the particle as a function of time.

[3] What is the velocity of the object at $t = 2\,s$.

[4] Is the velocity of the object ever zero? If so, at what time?

[5] Write the acceleration of the particle as a function of time.

■ **B.**

[1] The position of a particle is given by $x(t) = 7\,m - 4\,t\,\frac{m}{s} - t^2\,\frac{m}{s^2}$.

[2] Write the velocity of the particle as a function of time.

[3] What is the velocity of the object at $t = 2\,s$.

[4] Is the velocity of the object ever zero? If so, at what time?

[5] Write the acceleration of the particle as a function of time.

■ **B.** An object's initial displacement from the origin is $5\,m$. It's initial velocity is $3\,\frac{m}{s}$. It's acceleration is $-2\,\frac{m}{s^2}$.

[1] Write the position function for the object.

[2] What is the position of the object at $t = 2\,s$?

[3] What is the position of the object at $t = 3\,s$?

[4] What is the velocity of the object at $t = 2\,s$?

[5] What is the velocity of the object at $t = 3\,s$?

[6] Is the velocity of the object ever zero? If so, at what time?

[7] What is the position of the object when its velocity is zero?