Worksheet kinematics2

The position of a particle moving along the *x* axis depends on the time according to the equation *x* = *ct*2 - *bt*6, where *x* is in meters and *t* in seconds. Let *c* and *b* have numerical values 2.6 m/s2 and 1.4 m/s6, respectively.

From *t* = 0.0 s to *t* = 1.3 s, **(a)** what is the displacement of the particle? Find its velocity at times **(b)** 1.0 s, **(c)** 2.0 s, **(d)** 3.0 s, and **(e)** 4.0 s. Find its acceleration at **(f)** 1.0 s, **(g)**2.0 s, **(h)** 3.0 s, and **(i)** 4.0 s.