

1. The position as a function of time of a particle is given by, $x(t) = a + bt^2$, where $a = 10$ m, $b = 2$ m/s², and time is in seconds.
 - (a) What is the location (x coordinate) of the position at $t = 4$ sec?
 - (b) Sketch this function from $0 < t < 5$ seconds.
 - (c) Let the initial time be $t_i = 2$ seconds and the final time be $t_f = 5$ seconds. What are x_i and x_f ?
 - (d) What is the distance travelled and what is the displacement?
 - (e) Are these the same?
2. You walk East 5 km and then West 7 km. What is your displacement? What distance did you travel?