UNIT II: Worksheet 3
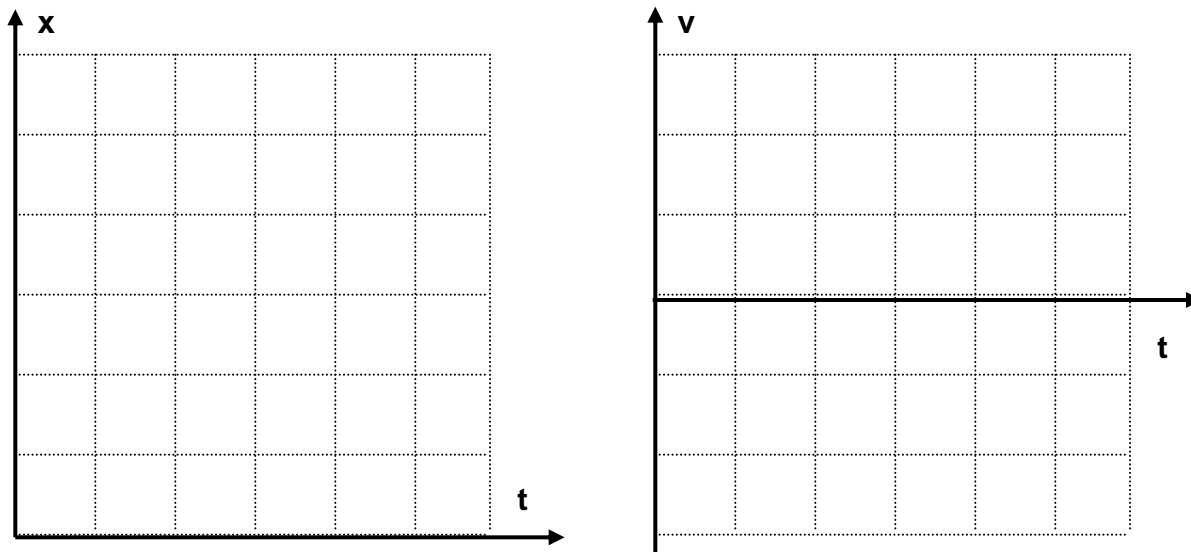
1. An object moves at a constant rate from the origin and travels 8 meters in 4 seconds.

    a. Draw a **quantitative** graphical representation of **x** vs **t** (see below). Label the x & y axis.

    b. Draw a **quantitative** graphical representation of **v** vs **t** (see below). Label the x & y axis.


    c. Write a mathematical expression that represents the relationship between **x** and **t**.

    d. Write a mathematical expression that represents the relationship between **v** and **t**.

    e. Cross hatch the area under the velocity-time graph. Describe what the area under the v-t graph represents and calculate its value.

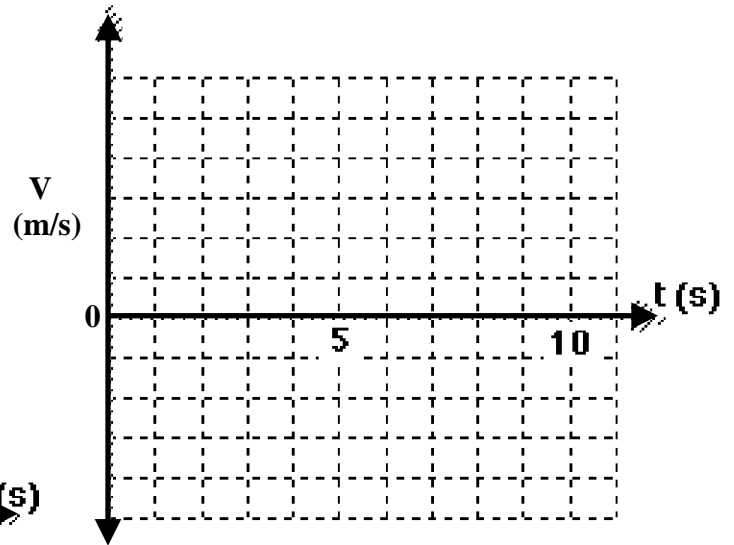   f. Now find the displacement using your equation from part c.

2. From the position vs time data below, complete a through e.

t (s)	x (m)
0	0
1	2
2	4
3	4
4	7
5	10
6	10
7	10
8	5
9	0

a.   Construct a graph of position vs time.

b.   Construct a graph of velocity vs time.

(A)

(B)
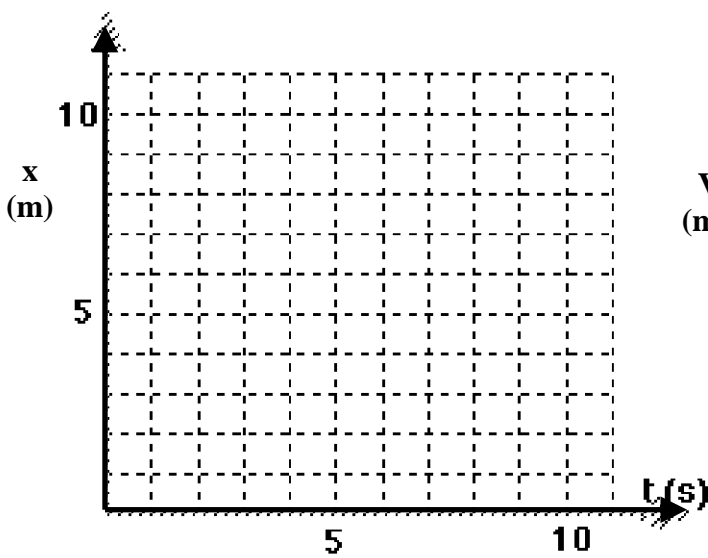
c.   Determine the displacement from t = 3.0s to 5.0s using graph B.

d.   Determine the displacement from t = 7.0 s to 9.0 s using graph B.

e.   Determine the AVERAGE velocity from 0.0 s to 7.0 s.