UNIT II: Particle Moving With Constant V- TEST (v1)

For each of the following graphs in questions 1-4:

a. Describe, using a clear, complete sentence, how the motion of object 2 differs from the motion of object 1. Explain how you know.

b. Sketch the graph of velocity vs time for object 1 and object 2. (label clearly)

c. In the space provided, draw motion maps for object 1 and object 2.

1.

2.
3. a. 

4. a. 

b. 

c. 

1 

2 

obj 1

obj 2

v (m/s)

t (s)

x (m)

t (s)
5. Construct a position-time graph for the motion described in the velocity-time graph shown below. Assume a position of zero at $t = 0$. Be sure to number the scale on the position axis.

6. Below is a qualitative motion map for Wandering Willie:

On the coordinate axes below sketch a graph which generally describes Willie's motion (you need not plot points).
7. Consider the position vs time graph for Flipper below

![Graph of position vs time for Flipper]

a) Determine Flipper's average speed. Show your work.

b) Mathematically model the relationship between position and time.

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c) What will Flipper's position be at 8.0 s? Show how you got your answer.

8. Suppose that you are driving along at a steady 25 m/s (nearly 55 mph). Draw the \( v \) vs \( t \) graph on the axes below. At time \( t = 2.0 \) s, you reach down to tune in a different radio station, without changing speed. At time \( t = 5.0 \) s, you return your attention to the road. On the graph below represent the distance you traveled, while you weren't really paying attention to your driving. What is this distance?

![Graph of \( v \) vs \( t \)]

9. Charlie flew from Phoenix to Tucson, a distance of 120 miles, at a constant speed of 120 mph. He then returned at a constant speed of 60. mph. What was his:

a. trip distance? ______________

b. displacement? _____________

c. average speed? _____________

d. average velocity? _____________