Name: _____   Date: _____

Position vs. Time Graphs

Object X — position x (meters) vs. time t (seconds)
Object Y — position x (meters) vs. time t (seconds)
Object Z — position x (meters) vs. time t (seconds)
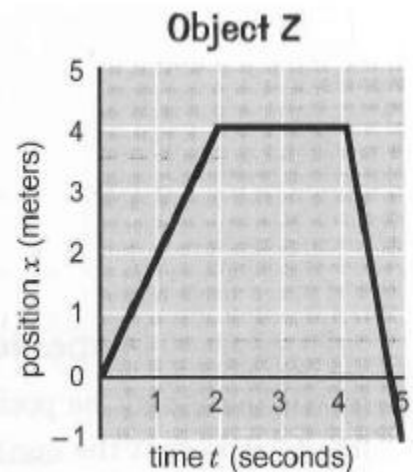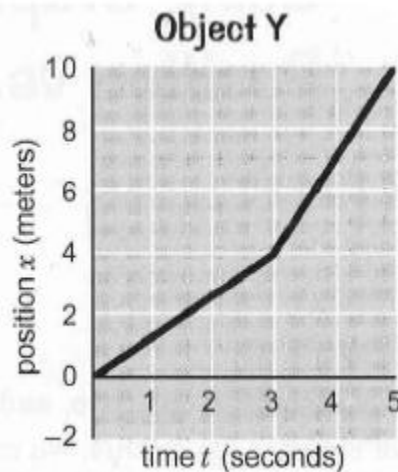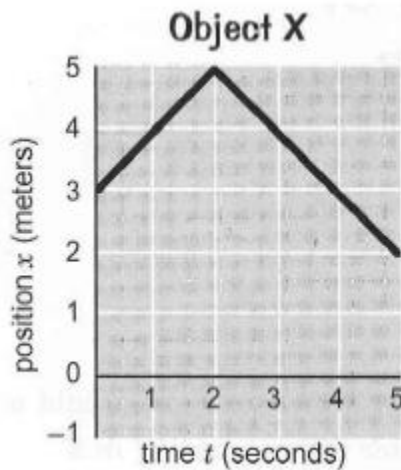
1. How far is Object Z from the origin at t = 3 seconds?

2. Which object takes the least time to reach a position 4 meters from the origin?

3. Which object is the farthest from the origin at t = 2 seconds

4. Is there an object that eventually returns to the origin and, if so, which one does this and when does this occur?

5. What is the total distance traveled by each of the 3 objects during the full 5 second time interval?

   a. Object X (show all calculations):

   b. Object Y(show all calculations):

   c. Object Z (show all calculations):

Instantaneous and Average Speed

Directions: Answer ALL of the following questions. Make sure to show **ALL WORK** and **ALL UNITS**
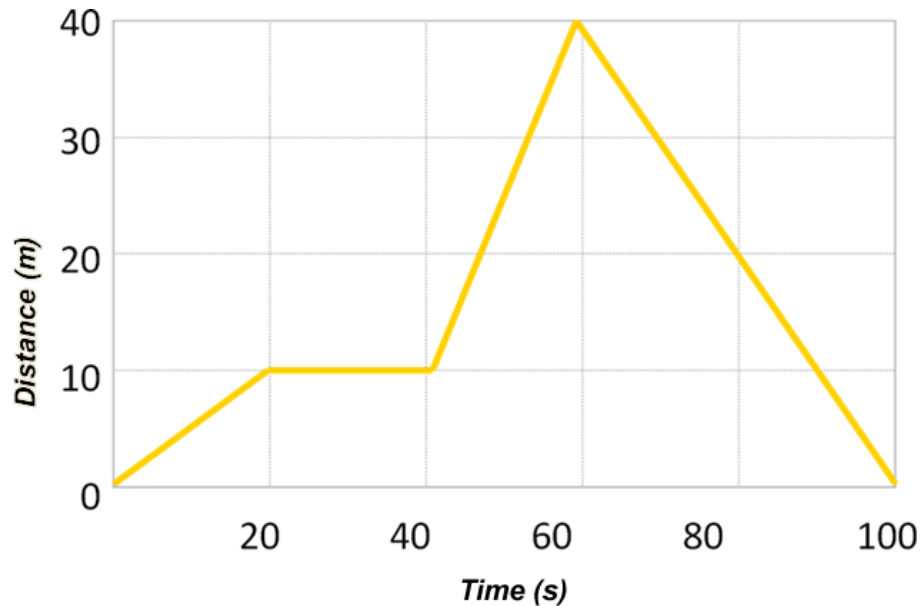
1. Circle the origin on the graph above

2. What is the Total Displacement traveled in the graph above over a 100 second interval?

3. What is the Total Distance traveled in the graph above over a 100 second interval?

4. What is the average speed over the first 60 seconds?

5. What is the instantaneous speed at t = 10 seconds?

6. What is the instantaneous speed at t = 30 seconds?

7. What is the instantaneous speed at t = 50 seconds?