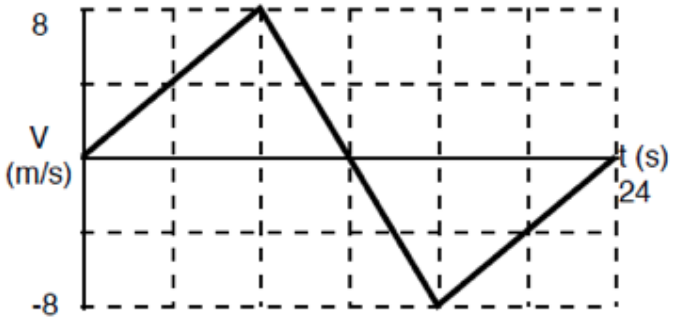
Name _____

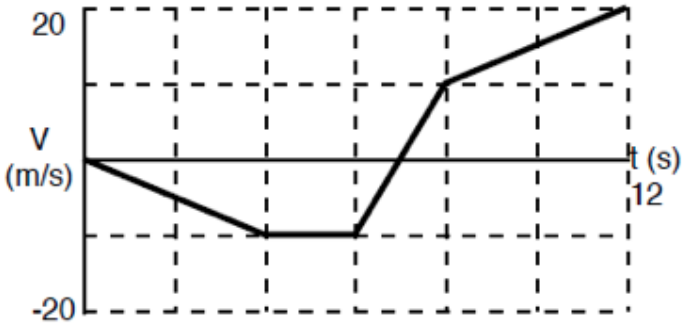
Per _____

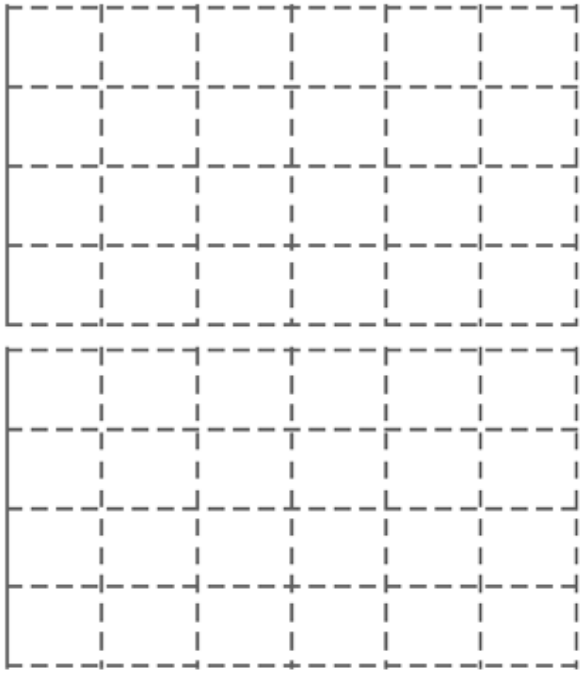
Date _____

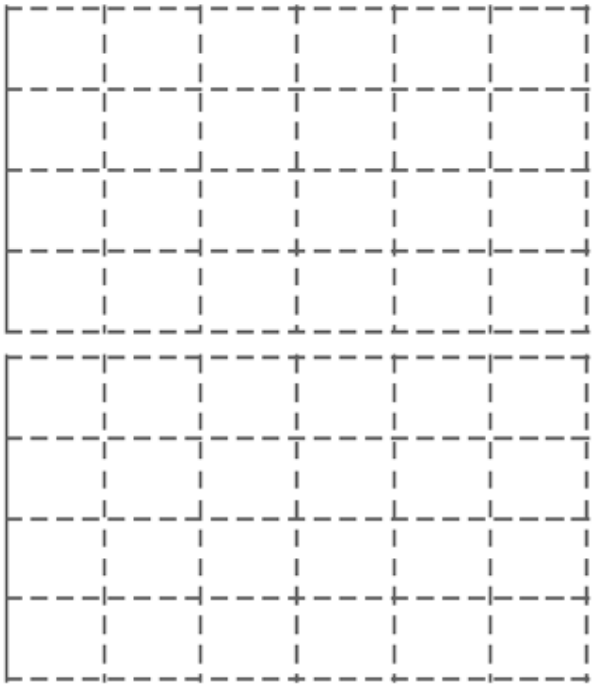
Constant Acceleration Motion Graphs

1. For the following velocity-time graphs, make an appropriate position-time and acceleration-time time graphs. **Assume the initial position is x=0 for each graph**. (Hint: determine displacement for each time interval to determine the position.)

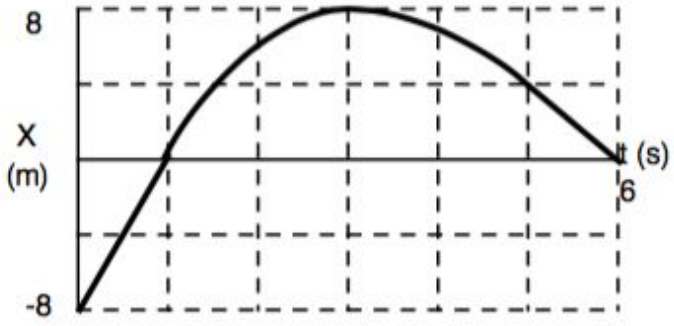


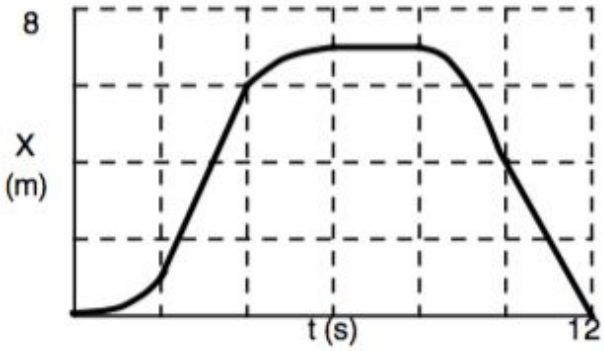






2. For the following position-time graphs, make an appropriate velocity-time graphs. (Hint: Determine displacement for time intervals that have logical sense and graph the velocity-time graph accordingly.)





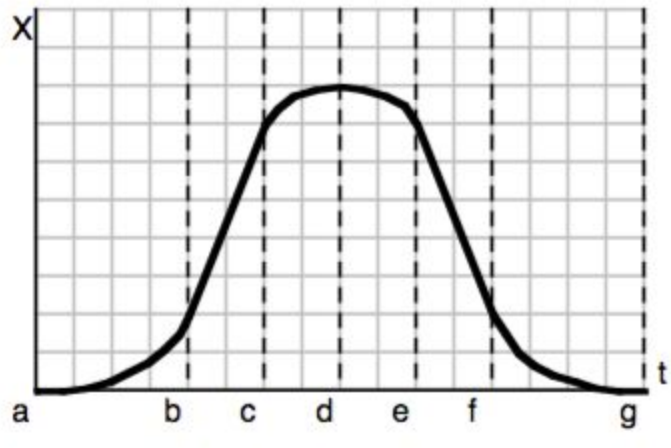
3. For the **position vs time** graph to the right:
    a. Where is the object at rest?

    b. Where is the object going away from the reference point?

    c. Where is the object going towards the reference point?

    d. Where is the object speeding up?

    e. Where is the object slowing down?



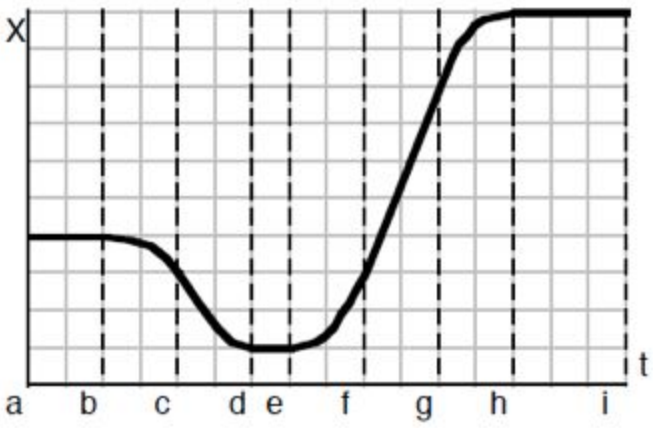
4. For the **position vs time** graph to the right:
    a. Where is the object at rest?

    b. Where is the object going away from the reference point?

    c. Where is the object going towards the reference point?

    d. Where is the object speeding up?

    e. Where is the object slowing down?



5. For the **position vs time** graph to the right:
    a. Where is the object at rest?

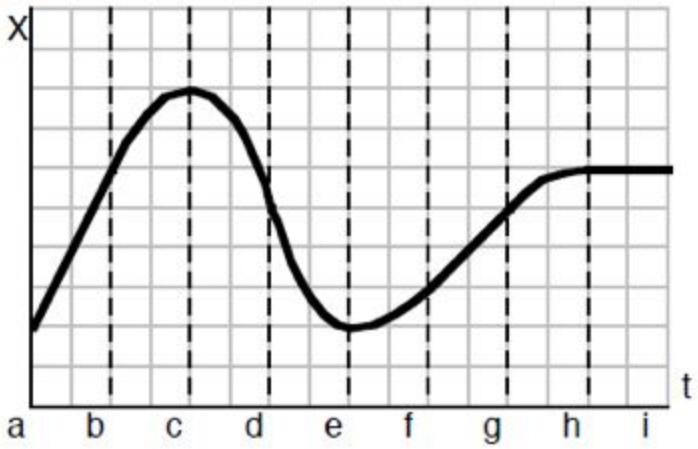
    b. Where is the object going away from the reference point?

    c. Where is the object going towards the reference point?

    d. Where is the object speeding up?

    e. Where is the object slowing down?

    f. Where is the acceleration zero?



6. For the **velocity vs time** graph to the right:
    a. Where is the object at rest?

    b. Where is the object going away from the reference point?

    c. Where is the object going towards the reference point?

    d. Where is the object speeding up?

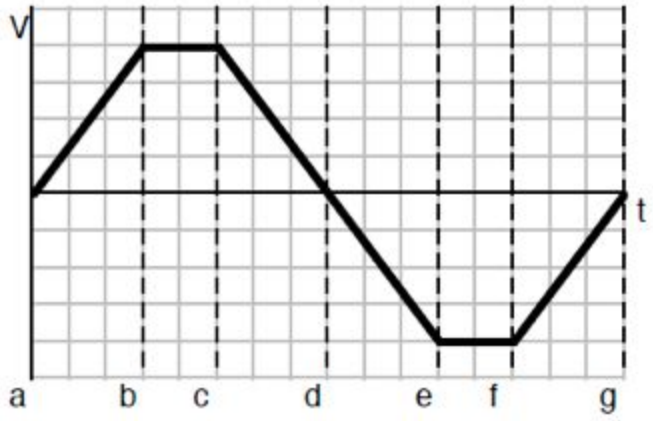
    e. Where is the object slowing down?

    f. Where is the object moving with constant velocity?

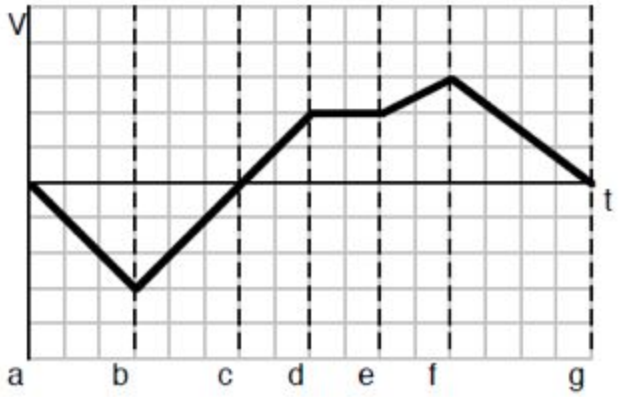
    g. Where is the acceleration positive?

    h. Where is the acceleration negative?

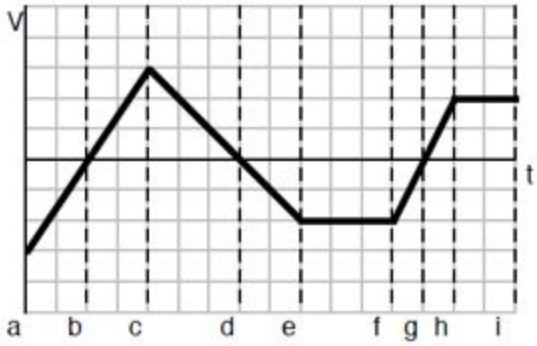
    i. Where is the acceleration zero?



7. For the **velocity vs time** graph to the right:
   a. Where is the object at rest?
   b. Where is the object going away from the reference point?
   c. Where is the object going towards the reference point?
   d. Where is the object speeding up?
   e. Where is the object slowing down?
   f. Where is the acceleration positive?
   g. Where is the acceleration negative?



8. For the **velocity vs time** graph to the right:
   a. Where is the object at rest?
   b. Where is the object going away from the reference point?
   c. Where is the object going towards the reference point?
   d. Where is the object speeding up?
   e. Where is the object slowing down?
   f. Where is the object moving with constant velocity?
   g. Where is the acceleration positive?
   h. Where is the acceleration negative?
   i. Where is the acceleration zero?



3. a) A,D,G b) AD c) DG d) e) AB, DE
4. a) AB, DE, HI b) EH c) BD d) BC, EF e) CD, GH
5. a) HI b) AC, EH c) CE d) CD, EF e) BC, DE, GH f) AB, HI
6. a) A,D,G b) AD c) DG d) AB, DE e) CD, FG f) BC, EF g) AB, FG h) CE i) BC, EF
7. a) A,C,G b) CG c) AC d) AB, CD, EF e) BC, FG f) BD, EF g) AB, FG
8. a) B,D,G b) BD, GI c) AB, DG d) BC, DE GH e) AB, CD, FG f) EF, HI g) AC, FH h) CE i) EF, HI