Week 1: Wednesday

- Homework question/answer
- Motion in 1D—definitions: $\Delta x, \bar{v}, \bar{v}, \bar{a}, \bar{a}$
- Graphical representation
- Motion with constant acceleration
- Solving problems

Several displacement vectors are shown below. Which of the following has the least *magnitude*:

D A E C a) A+B-D b) C+D-B c) A+B-D-C B d) C+D-E

e) A+B-E

Which object, A or B, has the larger *velocity*?



Rank order the *speeds* at times 1, 2, and 3 from the slowest to the fastest:



A: V1 < V2 < V3B: V2 < V1 < V3C: V3 < V1 < V2D: V3 < V2 < V1E: None of these/ not sure The graph shows position as a function of time for two trains running on parallel tracks. Which is true:



A: At time t_B , both trains have the same velocity.

- B: Both trains speed up all the time.
- C: Both trains have the same velocity at some time before t_B .
- D: Somewhere on the graph, both trains have the same acceleration.

A ball is thrown straight upward. At the top of its trajectory, its acceleration is:

A: zeroB: straight upC: straight downD: depends on the mass of the ball

