

Reminders 9-08-10:

- 2nd Webassign Homework Due 9/7.**
- 3rd Webassign Due 9/16**
- Exam 1 Monday Sept 20 Homework 1-3.**
- Quiz Next Today on Vectors and Forces**
- Read Chapter 2**
- Pick up Graded Material in Box Just Outside my Office**
- Conceptual Questions on Kinematics Due Next Wednesday (Printout from BlackBoard).**

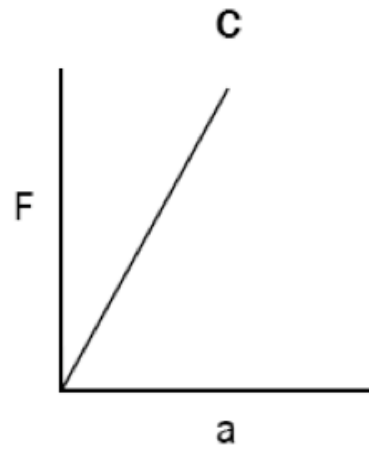
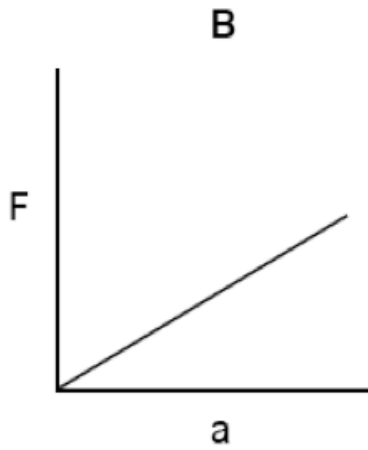
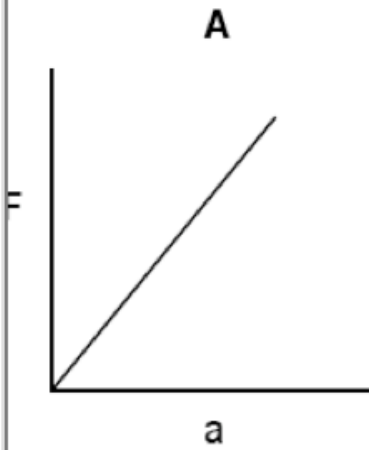
Objectives:

- Position, Velocity, and Acceleration**
- Equations of Motion for Constant Acceleration**
- Examples**

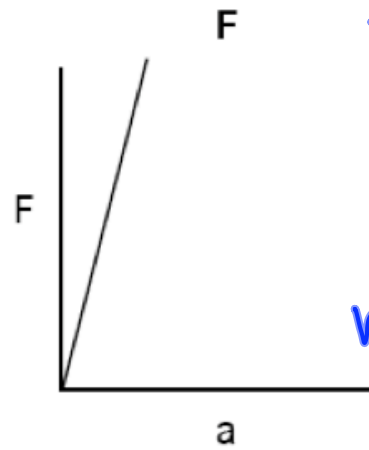
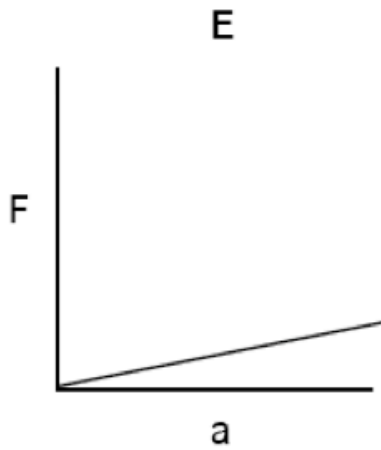
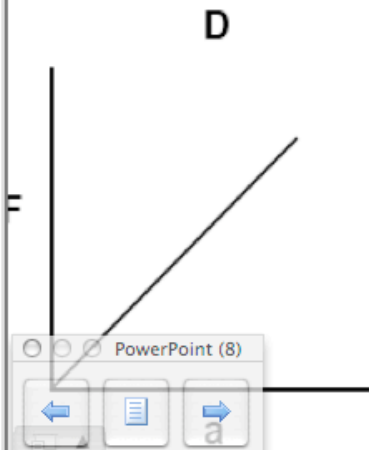
$$\sum \vec{F} = m \vec{a}$$

Cause = effect

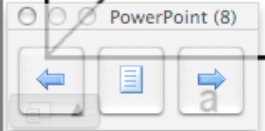
$$N = Kg \frac{m}{s^2}$$



Biggest Slope

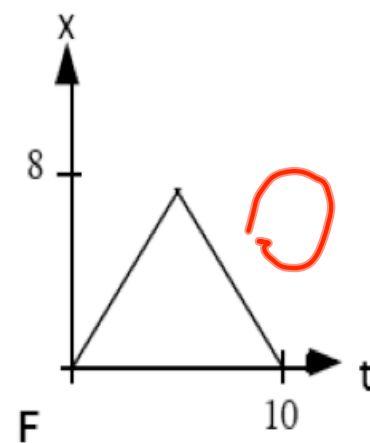
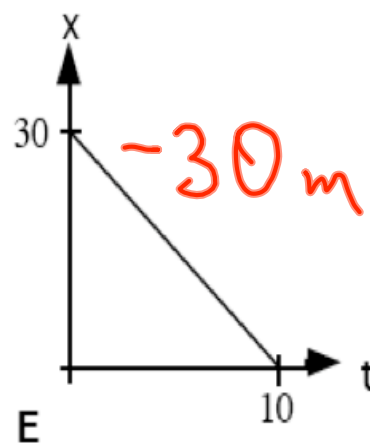
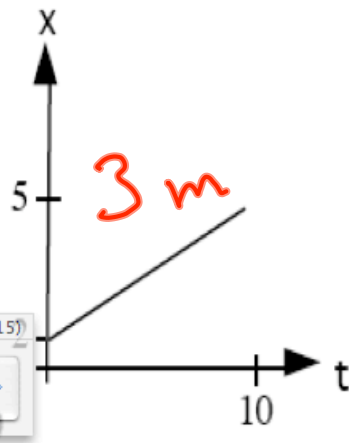
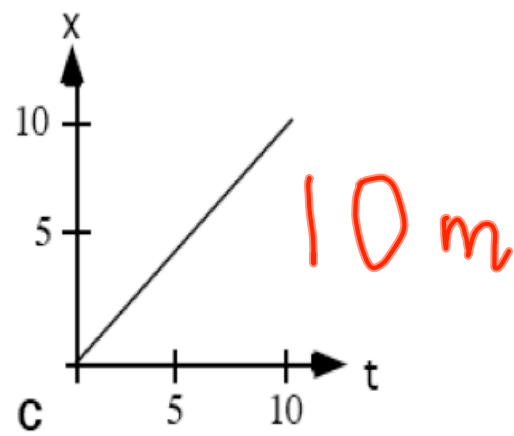
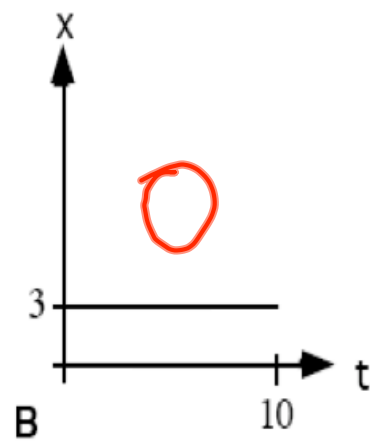
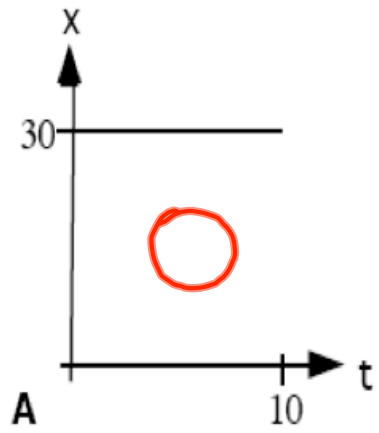


$F = ma$
 $F = ma$
 $m = \frac{F}{a}$



F, C, A, D, B, E

end of motion. Give the highest rank to the one(s) with the greatest displacement, and give the lowest rank to the one(s) indicating the least displacement. If two graphs indicate the same displacement, give them the same rank. Note: Zero is greater than negative, and ties are possible.



C, D, A, B, F, E

- An airplane changes its position by 4250 km toward the east in 5 hours.
 - What is the airplane's displacement?
 - What is its total distance traveled?
 - What is the average velocity of the airplane?
 - What is the average speed of the airplane?
 - How long does it take to fly 6800 km in a straight line?

$$\Delta x = 4250 \text{ km east}$$

total distance traveled $\geq 4250 \text{ km}$

$$V_{\text{avg}} = \frac{\Delta x}{\Delta t} = \frac{4250 \text{ km}}{5 \text{ hrs}} = 8.50 \times 10^2 \frac{\text{km}}{\text{hr}} \text{ east}$$

$$\text{avg. speed} \geq 850 \frac{\text{km}}{\text{hr}}$$

$$V_{\text{avg}} = \frac{\Delta x}{\Delta t}$$

$$\Delta t = \frac{\Delta x}{V_{\text{avg}}} = \frac{6800 \text{ km}}{850 \text{ km/hr}} = \underline{8 \text{ hrs}}$$

- A person travels 20 miles from city A to city B at an average speed of 30mph and returns back to city A at an average speed of 20mph. What is the average velocity? The average speed for the entire trip is not 25mph? It's 24mph. Why?

$$V_{avg} = 0 \text{ cause } \Delta x = 0$$

avg speed.

$$\frac{\text{TOTAL distance}}{\text{total time}}$$

$$\frac{2(\cancel{20})}{\left(\frac{\cancel{20}}{30} + \frac{\cancel{20}}{20}\right) \text{hr}}$$

$$\frac{2}{\frac{1}{30} + \frac{1}{20}} = \underline{24 \text{mph}}$$

Position vs. Time

