Due: Tues., Sept 6 (Pre-AP Physics)
Due: Wedn., Sept 7 (Reg Physics)
Assigned: Thurs., Sept 1 (Fri., Sept 2, Reg)

Free-fall (and some review)

1. An object is dropped 15 meters. How fast will it be going at the bottom?

2. An object is thrown into the air going 18 m/s. If it reaches 16.2 m into the air in 1.8 seconds. Find its acceleration.

3. An object is launched from 2 meters above the ground going 65 m/s, straight up. On its downward path, how fast will it be going 2 meters before it hits the ground?

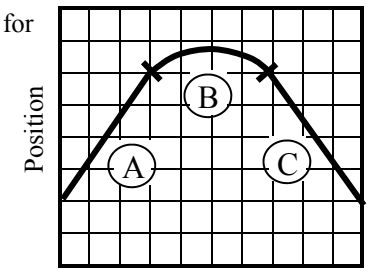
4. An object is dropped from a cliff. If it takes 6 seconds for it to hit the ground. How high was the cliff?

What do the slopes for these graphs mean?
A) Pos. vs Time:

B) Vel. vs. Time:

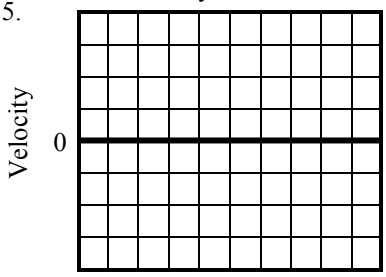
C) Acc. vs. Time:

Position vs. Time



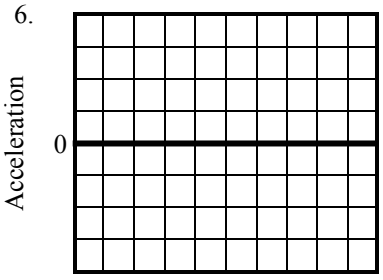
5.

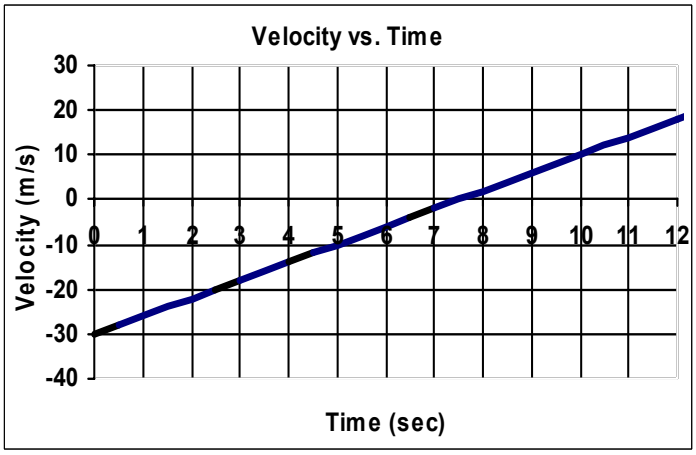
Velocity vs. Time



6.

Acceleration vs. Time





Graphically determine the displacement of the object in the first 10 seconds of its travel. (**Challenge question**). (*Hint: you will definitely need slope, etc.*)

7. When I say "Graphically" what do I mean?
8. Work here:

9. Cactus have adapted their leaves into thorns and internalized their chlorophyll into their trunks to thrive in what biome?

10. Tundra and deserts biomes have opposite extremes of temperatures yet both have very slow growth rates. Give a reason for this for each of these two biomes (on the back, please).