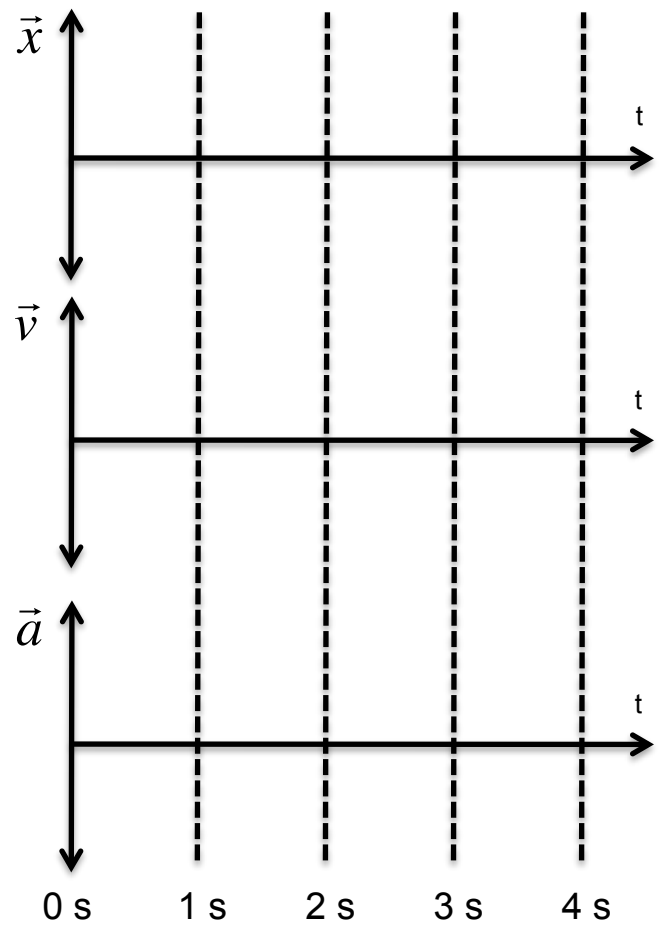


- 1) I'm riding my bike at a constant speed of 10 m/s. After 1s, my displacement is -5 m, I see a car, apply a constant force, and slow to a stop over a period of two seconds. Please graph my acceleration, velocity, and displacement as a function of time. Label the axes correctly.



2) I see my 100 kg friend (he's a big guy) sliding along at a speed of 6 m/s on his frictionless sled **on level ground**. I notice that he is about to go up a hill of 2 m in elevation, so I think he may need some help. I push him for 4 m with a force of 100 N just before he hits the hill. Does he make it up the hill? If so, how fast is he going at the top? If not, how high did he get?