I'd like to talk to you about solving these kinematics problems.

So we're going to actually start by asking ourselves three separate questions anytime we start one of these kinematics problems and this will help us really figure out what's happening in the motion.

So the first question that we want to ask is, how many objects are moving?

So do we care about more than one object, and if we do, we need to make sure to label each one distinctively.

We also want to know how many dimensions we need to care about for each object.

The second question that we want to ask ourselves is, how many stages of motion does each object have?

So for an example, if you're told that a bicycle is initially accelerating and then, at a certain time, it stops accelerating, then you know that that initial acceleration is going to have different equations of motion than the point in time where it now has an acceleration equal to zero.

The final thing that we want to think about, we want to figure out what special conditions there are.

So for example, you might be told that the cart is initially at rest.

So what does that mean in reality?

It means that you can write down something like, v of 0 is equal to 0, that's what it means for the cart to initially be at rest.

v cart is-- v at time 0 is equal to 0.

So those are the kinds of special conditions that you need to pay attention for in the problem and that will help you figure out-- get all of the numbers or the variables that you need to solve your equation.

Once you're done thinking through these different steps, the final thing you should always do before starting a problem is draw out your problem, properly label your system, and then of course draw your origin, your axes, and your unit vectors.

And this way, it will be easy for you to organize all of the different information that you have.