

Hello and welcome to this series. My name is Adam. It just says we have seen various aspects of things such as points, coordinates of 248 distance between points. Various points. Suspects. For the last three lectures they've been looking at claims. For example, the winter. Between the distances between clips. How to compute the distance? So let's start off. Once we finish that, we also do some extra special problems. So let me remind you. Last time we looked at. The situation may have played out. So. Save.

So in that case. 615101. But it's. 1st. Distance. Divided by.

So this operator. And we also want to have the same thing.

So let's do a very first example. Distance. Given by. 30,030 values. Divided by the square root of. Y. Square. Right?

So that's. No, let's do some more problems. Question. OK, give me the breakdown. Thank you buddy. But particularly

So that's what he was fine. Was this? So. OK,

So that tells you what the question is now. We also asked what is the distance of display? Most of that.  $6 + 3.21$ .

So that the. Shows look at. Games. That means that. It's for particular. That you would like.

So doing what the difference that my network is?

So once it's parallel to the distance between the lines and the player can be computed by finding the distance between.

So to fight. Because you don't want that. Do these things.

So I don't dispute this.

So now we have a point and we want to find the distance of this point from the. So. Distances. Minus 5. That gives. So. For the first time, whether it doesn't and if not. Point

So let's.

So the first one I want to make is

So we haven't really talked about this situation yet. The direction. But we can write down the vector form.

So that's a plus one plus tips. Point everybody.

So then. Some of. There is.

So we have looked at the cement. The fall of the day, but there's another way we can look at things so. Always. XYZ. Sorry this way. Right, because there's two clips. Yeah,

So we write down the equation of motion.

So let's say the first player. Yes, you want to say this. Temperatures.

So it's satisfy both of these equations. Hello mother, of course maybe. My name is. Just. Which it doesn't. I don't know. Of course these things are not.

So that means in particular direction ratios. OK,

So let's quickly. So,

So far they've looked at the coordinates distances between points. From the flights where the lines intersect. Distance is between leaves. This particular vector normal founding partition only found it doesn't follow, and then we had various other forms depending on what data was given codes and then we looked at the angle between the angle between these slides. Now we want to problems.

So maybe.

So maybe you've seen this already. You guys given by. They might. Because because you see, it gives you the. Right? Even those. What 6? 8.6. This year start. Wait? OK,

So you only have two frames. And given that there are something about the direction to issues. I didn't know. You're saying that they are not. We want to find out what. You're saying they cannot be skewed. When we take it. Click on. With time.

So if  $\lambda$  is not equal to 1. That's not.

So therefore  $\lambda$  must be and once advertised that means that. I believe that.

Techniques. Looks like. Equation.

So that means. Intersection.

So you decide. With visions. Squared squared squared this place. So. They got it.

So they're given that they certify these two equations. You want to take away their property. That's required. At least it's.

So remember that these guys are going to be opening things. But there will be.

So that's all.

So let's let's try this. The idea here is you want to somehow get hold of. Thank you. So.

So here's here's our first. These are our first equations,  
So let's celebrate. Questions. You're going to get. The first one by. The way that you're  
in the second one.  
So you said. Right? Types.  
So let's.  $1^2$  yes.  
So this is still in terms of.  
So here we can right now. Square.  
So notice that some quadratic equation. Things are better satisfies this question so.  
What is the?  
So that will give us a. Quarter that means somewhere in my system,  
So you know. Like 1. Something just saying. Yes. 2nd.  
So and we can now use symmetry. Or you can call again. Yeah.  
So we can expand on that.  
So notice that inside now we have this interesting.  
So you can begin. So. Part 2 we know that this expression square root is 0.  
So that means. Microsoft.  
So it follows that. It's more than one.  
So this tells us that.  
So part let's go to part one, part one. So. That PC Plus is. And let's call them again.  
That's correct. Close this.  
So that equation. Squared this is. 4. Divided by. That's the reality.  
So this is what we want to do. Stop. Of course, we know that.  
So what is the model of this model? That's what you wanted to compute.  
So we wanted to get our hands on some particular expressions, right?  
So for perpendicular we wanted to check whether. If you want to express. The order. For  
the appendicular part, you want to get the expressions for his own types.  
So because of that we went for the quadratic. So. Set. It's funny.  
So let's.  
So let's first find the equation of the line passing to the first. So. Start with this  
because. Remember that this will cut the expression. It's clear that all three lines are  
passing through the official. Origin.  
So there is a package. So.  
So using the second, find the expression for.  
So now we want to take a good part also. Possessed. So. Forward.  
So such a point we lie on display.  
So you want to take it. Let's see what.  
So I can blow the laptop. Multiply. Yes, I can do that. Or if I pull out. Then I get this  
expression. I'm doing that. OK,  
So that means each of those points. I think I can. What I will maybe I can do some  
exercise. What do you have cooking? OK,  
So let's support the next.  
So 5 intersections. Boston four days. Why? So. Question.  
So let's first try. So. Find the points.  
So maybe I just find the 1st 1st.  
So for the first point of intersection, you will create your first expression to help  
that you want to equate your expression.  
So we start. Notice that this last part we want to cement work, he said by the  
supervising. What that means is that set is always equal to two. That means all these  
four lines lie all the plane that is equal to 1.  
So really the Z coordinate. These are musicians. Liquid liquid language. See the  
different sections. Why?  
So if we work out. Using.  
So we substitute that they have no longer.  
So therefore. Because  $X$  zero, while  $7 * 0 + 1$  OK.  
So similarly we can find the points. The following.  
So far. We at the point of intersection. For the. The point of intersection. Like  
So forth. Yeah,  
So if you take that you will take it. OK,  
So the next part we were asked to check was whether these points 5 or something.  
So remember, all of the things that request to the question is we have.  
So of course we know that given any three points that is circle the unique circle that

process to them.

So the question is, does the 4th point also lie? That's

So let's find out the question of the circle passing through those three points.

So say your center is suppose. Yes. The square of the radius from each of those first three points must be the same

So that we get. This one was not one. Square root square. Square.

So if we solve these equations. That's all the 1st 2. Let's say.

So that they solved the first point. Xbox. They like it. 16 OK,

So I used the fact that my thought is. Sorry. It's not required for support because it's not square. Therefore times it's not. It's not. OK.

So good. Which was the 1st 3 frames. Take it. You can find the radius while looking at the distance between this point and those three points. Yes.

So therefore the equation of this. Remember that. Equation. Because they're all just acting. All the planes equals. Questions. So.

So then the question is, does the negative one that's the fourth negative one negative 6/2? Satisfy the situation with. So. OK,

So just bring us to care of this series of lectures. The series we have studied.

Seriously serious. Of course, the more problems you study. Thank you very much for your attention.