

Yesterday. My list. I'm very happy to participate in the program. This might be giving lectures. Quadratic equation. Problems and quadratic equations and also on fitness and geometry. We all know that. The different form of the quadratic equation. We equal to. Yes, but. Let's see where this game. To be seen for real numbers. Real numbers. OK, what we are interested in this. The Sunday equation. It's equal to 0 . The solutions of this equation. The equation. We are also interested. Exactly. Shape of the battle. We all know that the way equally expenses DSC when a is not equal to 0 is representing a parabola. The exact shape of the parabola. We want to. These are the two important problems on quadratic equations. And. Who explained the second statement? Let us take this. That equation for the X^2 plus only equal to 0 . We know that this is a simple quadratic equation and the coefficients are altricial, and the A is equal to 1. Here still the equation. Your solution. Serious. For you to say. And in this case we have something called the discriminant. We all know the discriminant is an important in studying these two problems. This is equal to square root of the square. Police.

So many women. Depending on the value of this PD is defined by B square, minus four is depending on the value of. We decide about the names of the selections. For instance if it is. In order. The Englishman. We call this equation as equation. The equation one has. The real solution has. Just need selections. And we don't have any quadratic equation. Solutions can be real. As we have seen that the situation does it, does we have solution but it has a complex solutions

So at most it has two solutions for these greater than 0 . The. Means is equal to 0 . Only one repeat itself. Listening. See. Columbia City said recently muddiness. Compensation. The solutions are the same. Of the phone. Although the sibika. Adopt A minus. BBC are real. Also, is a quarterly information,

So these are the basic information you all know. The quadratic equation. Before moving on this area of the district. That this comment also because that is an important tool in deciding about the exact shape of the fact, for example. I think the least possible. Alright. Maybe something positive? The code will be. This is in Texas. And this year something like this. Is greater than 0 . By the 8th. When peace. There is there are these other things that we call this. At least better than zero, and he is just than 0 . And the shape of the graph. That is something like. Pierce do you think the seal? Any is possible. When I said is equal to 0 , this is only one route, and this in that case it will be touching the X axis. The graph will be something under given is greater than zero. It would be. We say that generally we say that this. Question. Understand here in this case we say. And when it is equal to 0 and a is greater than zero, the graph will be some. It will be touching the X axis and exactly at one point and then that will be something like. Is equal to. Is the end. OK. Because. And I don't have the patience. Obvious solutions only, countless threads are. In this case, the government is depending on the conversion of its validity. The draft. Something. It is not because this doesn't have any. Similarly, when you need these negative. But please. Then the graph will be something. We know that.

So these are the. Chief of the. And the value of the coefficient of X^2 . The next thing information, let us see some problems. You know that. For the equation, except for Spears, this summer the reporter. They studied the relation between the location of the roots, the roots and the coefficients of the equation. For example, let us take this equation $X^2 + 3X$ plus C. Is equal to 0 . And. They cut. But it is. Value at one point. And similarly, when it is not case, there is where it is harmless. It's amazing chemo at some point when it is not given. It is early. This ship then that option is attending the maximum at. The the people are the best. The funding is equal. Latest.

So this is an important remark you should know about the quadratic equation. But this is equal to minus three by two the function.

So this is a fight under your. That is quite functional fitness officiating. Then the function attains a minimum value for the surface shape. This function attains the maximum value. Sorry. Just start with something. I'll tell you what you Alpha and beta. What were the important? Fun, we thought. Of the quadratic English. Parts of the speech. The question, let's say it's like this. Basically. Beta is equal to minus B by. And all the products. Is equal to the C.

So this is very important information. Of the equation. In some cases it is not very straightforward,

So that is what I want to explain in this lecture. The number one will take this simple problem that is. Mr. Medicine,

So this English tips, but this yes, minus 3 equal to. Tell me something something. Unbeknown. That is, if you have the formula that is equal to minus B, the solution of this equation is equal to minus B plus minus root of B square minus 4. Wherever you see this is distributed. Minus B + - 1. There are two groups are given by the same. In this equation you can immediately find the solution to this goal. Don't make personas. I thought because. Maybe this formula they can find. He thought he thought the rules of English. No. The values, for example, let's say. Minus 4 meters squared. That's great. Given equation $X^2 + X - 3$ equal to 0. What is the value of this offer? You minus 4 meter square plus. Suppose if I find a solution, for example, if I find the discriminant least by minus. That stuff you got to find the discriminant. Plus minus square root of the discriminant divided by three is the article. But how do I find this valuable? Application. Very complicated same steps

So we can use some idea like this. Let me take that equal to 8.

So what is the value of? This is equal to? Three is equal. I'll **** you. But done everything because of the alpha and beta doesn't matter the beta or alpha beta.

So in case I can take one more. Let's see in terms of the data there is, you know, I'm just entertaining the alpha beta. We thought you might have pulled off. Plus 19. Let me call this as. How many questions expire for $6 - 3$ equal to 0? Now I am sending this. Find the right job that is like. You know, I'm just because I'm thinking this. Alpha, beta. Minus 4. Alpha Square plus beta square. Plus 30. But similarly as I can see. Because they know what is alpha. What is AA Plus beta is and what is alpha beta? For an example is, I guess might be enough of this alpha plus beta. Our focus. I think the speed the whole square. The same thing here. I thought the speech about square minus 2A. What's that? No. This is equal to. I've got the speed in this case in the given equation. Here all four plus beta is equal to minus one. Data is equal. Alpha Plus beta is equal to minus one because the equation is $X^2 + X - 3$ equal to 0 and alpha beta is equal.

So OK,

So these values,

So this becomes minus one. What minus? Formula is minus three,

So therefore it is my first life minus 4 and $1 + 6$. What's that? Wedding is. Yeah, that's because. See. Similarly. You might. What is happening here? Yeah, minus B is equal to the same way that is alpha Q minus beta. Titus. Alpha Square minus Theta square. Making depression. Are you saying that like alpha minus beta? Our purpose speed double spread. Minus alpha beta. Plus 4:00 o'clock this data. Like this comment. The speaker. Otherwise, I can give something to the values half of the speed that there is one. Alpha minus beta. Play the game. $14 - 4$.

So you must be equal to 0, but here minus B also is equal to 0.

So combining these two equations cycle is equal. To add these two equations equal to 0.

And he made a speech. I'm waiting to see. This is is equal to 0. So. Manipulating the course, we are getting the value of this alpha Q - 4 beta squared plus one. You can say that. Fighting. My manipulating that house. I'd like to minus 1 meter squared plus, So this is what? Problem. Let me take this equation. This plan is the. Please song. It's made by the explain. Is equal to. They support like a multiply this and I get it in the form of. Please. Nobody. That know that the sisters. The explanation is. Since. The location of the rooms are something like this in this. Into the state up in the right state up here that is alpha listen.

So what? Something like that. How tall is the? Season and we are fixed. Probably proceed. I mean for the substitution, but it's simple. It's minus Z is equal to Y. And it becomes. Wait 20 minutes for the equation. Simply minus B is equal to 1, which is that is squared minus B equal to. Might as well is equal. The tedious. In this way. Yes.

So please whatever please please. There is positive, therefore this piece. Positive there are. Spotify. Put that up. What is this? Stay out. Now you have to prove that. My thought is that here is that. I know look at this alpha beta product alpha. What is product alpha beta? Particularly. It is equal to minus one 30s. Alpha and beta has opposite signs, So the. Information. Alpha and beta. The top of the parabola will be something like this. It is, there are far better. It is possible the shape of the graph would be something like this and now we are getting the information these are. Does having. The seriously. In between that work

So they can assist us in that one of them is present. Because of the substitution might be amazing, X minus is equal to. Wait? We have customers. Is alpha and beta are the roots of the equation? We square is square minus P y - 1 is equal to 0.

So now we have we are going back to the original variable.

So we find that the alpha beta.

So the case? This is the. Outside hold on because. Now let us take one more problem. That you'll be a real number. Are equal to minus one. I'm considering this moderating equation. Yes, but. $2 + 2 * 4 - 2$. Maybe it's. Yes, yes. Minus 3. Let's see equal to 0. Given that. This says. Don't listen. I. Since this fall for square plus, beta squared is equal to 6. By the way. Order I'm going to take the discriminate. The. Which is equal. $4 - 2 ^2$. According to your square minus 3 + 3. By simplifying minus 4. The school. Since it is doing that. Alpha and beta that is discriminate has to be positive. Is this possible? This process that your business said. Already it is given greater or equal to minus. Yeah. Minus one. I.

So this is the information we have about the value of the. Now let us go for finding the value, the exact value of. Somebody know that since alpha and beta fruits and the equation is 6%? We have I thought the speaker is equal to minus $2 * C - 2$. I'll probably die is equal. Yes, there might just feel. Let me just check calculate this. Also, you just also given. Is equal to six,

So they give Alpha Square. Six is equal to Alpha Square plus beta.

So this is nothing but we know that. Like this? They substitute the value. The value of that. We get. By this premium. Listen.

So this in place this equation we are getting. This will expire. By the. That's sports. This is a simple already equation that the boots are equal to. Plus minus five root of 17 by. Alright. Since. Has to be. In between the minus one and the plus one. That would be possible. Value of the missing. $5 - 517$ hundred.

So this is the only possible value for others. Thank you, somewhat broken. Take this example. What is sensitive this equation $2 X$ squared? Might experience minus one is equal to 0. I might consider another equation. Explorer. Last three years. Minus two is equal to 0. These are the two. Quadratic equations that we assume that. For this equation, feasible. As for this, let's say 2 is. What are the? It is Steven. The product video is not equal to 1. No, we are. We want to fight. The value of. PQ plus $P + 1$. See what it's like.

So that's the only information fees for this situation. To use the root of this equation. And the people is not equal to.

So since these are, you know that satisfies the equation $2B$ square minus three $P - 1 = 0$ and Q is the rule therefore. My first $3/2$. Minus two is equal to. From the equation. Let me call this equation. English. Taking out the minus 2. For the second equation. Quietest 3 way? What's going on? When doing this. Like the first equation. I remember right. We cannot be seen. Because he's not satisfied. Games we have. Like this crime? The way it is. Like you. Minus one. This means that. That will make you. Is the hotel. Requesting first expression that is of the equation. Squared minus three $X - 1$ is equal to 0 already this given that P is. Therefore. $3 + 1$. Thank you. Pizza makers and therefore we will make you is equal to three by two. The product being. Q is equal. Tell me a don't let us say. The expression be toothless. Don't be. Speak plus work order. Thank you. Everything would be. Just be like you. Let's select thank you.

So people like you is 3 by 2. Might as well. That's what we have.

So the value of 122 is equal.

So let us set up. Quadratic equation. Which. The equation is not immediately granted the quadratic equation, but it can be reduced to $1/4$. But interested. One way. Yes, go at this point. Plus one by. Except for six 6%.

So what are they? $X ^2 + 10 X$ plus 24. Is equal to 125. Right, that's one way. $X ^2 + 14 X$. Just funny. Now. Tell me the denominator. Plus fourteen $X + 45 + 10 X$ plus 24 X squared plus $6X$ plus eight $X ^2 + 2$. But since I can write this. This is the equation we have.

So so by this. Since you service. I can't wait one way. Doesn't work. Christmas $4 6 + 6$. The score. Maybe let me take that. Other questions that I can't say. It's where I make it. Plus one. Like yes, +8. Is equal to 1. Still in the denominator. Just like reasoning like this

So I can. Take that. What's my tool? Outside which is equal to. I think the partial fraction. Similarly,

So therefore it is supported by. It's minus 1 by $X + 2$. +2. $X + 4$. Yes. Sport. Play the song, play explicit. 1st. The six. *****. Getting all the jobs we are just with 1.2 the first summer. By the.

So they give an impression it's every. By simplifying this, I get the square to say that $X - 12B$ is equal to 0447. It's a secret.

So straight away is not a quadratic equation, but it's the quadratic equation. There's someone. What are the equations which are? Equations which are ready reducibility. For instance, if we consider this equation $2, X^2 - 3X + 2 - 3X$ divided by $X, ^2$. By starting the equation given, now our problem is to find. The product of the real. Clear roads are the simulation was satisfied whether there are lots. Identify the product.

So this is our equation. English by giving a proper substitution. Definitely rewrite this equation. Square. Playing square. I'm compiling this. What? Minus. Three types. Equation. The immediate substitution is we. Plus one. Little bit. Respond to a square. Minus three $y - 4$. Sequence one that is two ways squared minus three $y - 5$ is equal to 0 and by looking at the roots. See, that's why it is important by two verify and there is another. Sports. No. Who is equal to minus one? We have our substitution. You see $X = X + 1$ by X . This case $X + 1$ by X . What equal to 0? This square plus $6 + 1$ is equal to. Given problem is a soldier in this party. You're obviously looking at this equation. This equation that is where minus four is. Let us look at the other possible value of which is π by two is equal to π .

So this makes the given equation. Plus one by X . By two.

So they give an equation that will simplify this and kind of spoils square minus $5X$. Is equal to. One way to do it. Therefore, the question is asked by the product of the universe,

So these are the only ones possible,

So therefore the product. Now let us let us look at it. The different flavor. Consider this. There's more. It's $1 - 3\alpha$. Let's move. Is equal to 0. Find α . Alrighty So far. This equation has. Now let us make the. Basically. We want that. We get the real roads squared minus four AC . Possible. Hey. What's minus 3? Minus $4 - 2 - 1$. It's implied by simplification. Right or conspired by this. 707 we have one simplification in themselves, not for minus one. Right on purpose.

So this is possible. I'll call you better than or equal to 1. A responsibility. This is possible. This product of these two numbers, α minus one and the $9A$ plus seven. This is possible. Totally critical are equal to 1. Greater than or equal to. That's what the product is. This place otherwise. Are equal. But otherwise they are equal to minus 7.9. This becomes negative. This also becomes negative. The product is not.

So therefore my heart should be. Search that unfortunately. Minus Infinity to including minus 7 by 9. They want formulas with this. We can have it the equation. Yes. Let's take the two quadratic equation. The express was this was see. Just let me see. I I, I think all the equations are the same. Minus a^2 plus BX . Let's see. Explain that. α is. Fundraiser It is given that PETA is promising. The question is. Show that. The equation. The new equation. Anyway, we have square. Just be expressing. Equal to 0. How do you? Is the polynomial. Square.

So we are. Yeah. First time. Square plus BC . Let's say. Which is equal. The first same thing. Yeah, right? Yeah, they told me the square meter. Saying minus. Let's just see. The. We know that this is what it is. By looking at this value. α and β α β , α^2 and β^2 α . Have opposite sides. Yeah. The settings. That he was succeeded. That would be. Updates. Seal for some things between. Baldwin. Is that better? Yes. Thank you in English. I think I put this. Problems of quadratic equations. Which are generally appearing in some competitive situations. 2016 and squared saw the quadratic equation $2016 X^2 + 2017$. Excellent.

So let me try to solve this English. Just wondering if you were. 2016 2017 2016 + 1. Players do those things,

So that's. That's what I'm saying. Like I'm saying, I can find out.

So divide this. Expression. For this one factor. It goes like this.

So let's start. 2019 quadratic equations. Functions. Modulus. Let me take. Quoting square despite those products +666. Close all this. Obviously more experience ever since squared. English, and

So it is not a quadratic English, but this can be converted into quadratic equation by using the substitution model model. Square.

So this is a. Therefore. Please place makes a sequence like this. Morning. It's. Posted.

So this is not about reading information. The same matter. I wanted to solve this problem. What is minus 2^2 plus mod experience? It's like this. Not cooperating

conditions because they did not function. Better. Just like. No. Say say it's perfect. The model inside this model is. Maybe positivity. 30 somethings no, if I may take the case where. This is possible, or in the case where this is so, that will take place one, So my is to solve this we want to solve this by next Saturday. My case volume please. Explain this for $X + 3$. Positive.

So it is a quadratic expression which can be used. So. The factors are it's plus three. $6 + 1$. Possible. That means it's. Because. Just that by the street. No.

So This is why. We are not solving every equation given equation.

So now let us take the regular English. This extract is more exposed. The given equation becomes. Is that you? Because. Because it's squared plus four $X + 3$ is possibly.

Therefore I can force the modulus plus two $X + 5$. It's a serious. But six $6 + 8$. By solving this is a simple quadratic equation. Plus $4 = 0$. Like us see the previous step. Less than minus 300. Might. Therefore, what's this, since this is the constraint that you have? Exercise. The store and. It's the same. Gorgeous. Therefore. In the. In the case, of course. No way. Just. What is this? They extend this for experts. I think that's correct. Same place this is. We love you. The same factors that we have. The situation. This is supported.

So we have explained this. Why is this? So. Minus 2. Stood away. Saw this. That is square.

So it's still serve the food system minus $1 + - 3$. But I'm saying that it has to be to be inside. Therefore. It is like this outside. This is the one.

So therefore the solutions set by this situation. Storage. You're seeing some problems, quadratic equations. You'll notice that I have not given any the basic details of the partner in English. It's like. All that. Someone that makes sense and I think I was saying all the basic knowledge of the quadratic equations and then I have solved some problems like how to find the. Things that we saw in identities. I also be I how to find the rooms. The clear routes are some equations. You know something that this as I continue. This is my next picture and some more problems. Which field? Previous day with. You will get more knowledge, thank you.