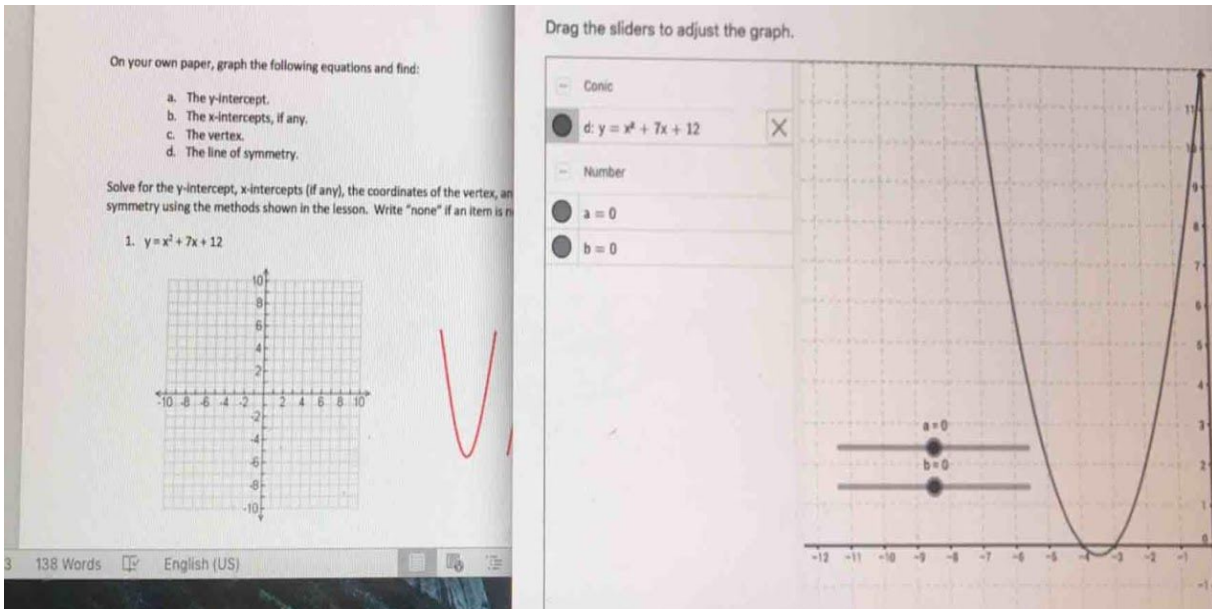
Student: Jaiden Date: July 11th, 2017




Jul 11th 1:04:36 pm

Hey Jaiden, welcome back!

✓ *Introduction: Welcomes student back to the app*

Jul 11th 1:05:01 pm

It's Mr. Wollney, from before!

Jul 11th 1:05:09 pm

How are you doing?

✓ *Introduction: Builds rapport with warm greeting*

Jul 11th 1:05:12 pm

Good having trouble with a problem again

Jul 11th 1:05:28 pm

No problem! Let's take a look at it :)

Jul 11th 1:05:42 pm

just letting you know the picture to the right of my screen is my equation graphed already

Jul 11th 1:06:22 pm

Got it!

Jul 11th 1:06:30 pm

Any chance you can send me a picture of just the problem?

✓ *A1: Confirm understanding of the student's problem*

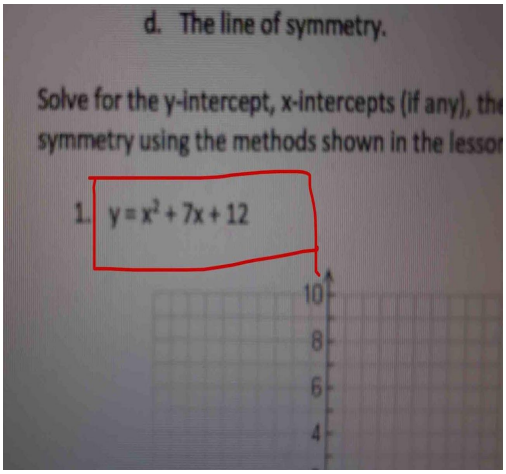
Jul 11th 1:06:44 pm

Yes

Jul 11th 1:06:59 pm

Sweet! Thanks

Jul 11th 1:07:07 pm




Jul 11th 1:07:42 pm

Just got it. Thanks!

Jul 11th 1:07:59 pm

Welcome

Jul 11th 1:08:14 pm

So it looks like you plotted the graph on the right hand side of the first picture you sent me, correct?

✓ *A1: Determine progress*

Jul 11th 1:08:53 pm

Yes

Jul 11th 1:09:11 pm

got it!

Jul 11th 1:09:32 pm

I just took a look at your graph, and it looks great!

Jul 11th 1:10:16 pm

Nice job there!

Jul 11th 1:10:20 pm

Thanks

Jul 11th 1:10:26 pm

*Note: Here it may have been best to check to see if the student was allowed to use a graphing calculator, or if they needed help graphing by hand.*

So now it looks like we need to find the x and y intercepts, correct?

✓ *A1: Determine starting point*

Jul 11th 1:10:55 pm

yes and the vertex and line of symmetry

Jul 11th 1:11:19 pm

I found the x intercepts already

Jul 11th 1:11:31 pm

perfect! we can do that

✓ *B2: Use of "we" and "us" language*

Jul 11th 1:11:34 pm

Great job! can you tell me what they are?

✓ *C3: Invite student input*

Jul 11th 1:11:42 pm

-3,0 -4,0

Jul 11th 1:11:57 pm

you got it! Great job Jaiden

✓ *C2: Encouraging words*

Jul 11th 1:12:06 pm

What do you want to find next?

✓ *C3: Allows student to lead*

Jul 11th 1:12:10 pm

The vertex I'm having a lot of trouble with that because it's not on a number

Jul 11th 1:13:00 pm

Sure thing!

Jul 11th 1:13:11 pm

There's a couple ways we can find it

✓ *C1: Adapt instruction to student gap*

Jul 11th 1:13:20 pm

Ok

Jul 11th 1:13:25 pm

The way I get you're doing is looking on the graph and trying to find the point

Jul 11th 1:13:40 pm

Yes

Jul 11th 1:13:50 pm

Does the way that you're graphing let you click on a point and find it's value?

Jul 11th 1:14:11 pm

I don't think so why ?

Jul 11th 1:14:37 pm

No worries, if it did, you could have just clicked on the point and it would have told us the value

Jul 11th 1:14:57 pm

But not to worry there's another easy way :)

✓ *C2: Reassuring language*

Jul 11th 1:15:05 pm

Ok

Jul 11th 1:15:14 pm

Did you know that we can write the vertex of a parabola as the ordered point (h,k)?

✓ *C3: Encourages student to share existing knowledge*

Jul 11th 1:15:36 pm

No

Jul 11th 1:15:53 pm

No problem! Well you know write it as (h,k)

✓ *C1: Adapt instruction to student gap*

Jul 11th 1:16:22 pm

the h is the x value, and the k is the y value

Jul 11th 1:16:31 pm

Ok

Jul 11th 1:16:39 pm

There's a cool little formula that will let us find the h value, it's not too bad!

Jul 11th 1:17:08 pm

Ok

Jul 11th 1:17:25 pm

So any parabola can be written as y = a*x^2 + b*x + c

Jul 11th 1:17:46 pm

Yes

Jul 11th 1:18:05 pm

aThen we can use the formula h = -b/2a

Jul 11th 1:18:10 pm

this will give us the x coordinate of the vertex :)

Jul 11th 1:18:21 pm

Should we give it a try together?

Jul 11th 1:18:27 pm

Yes

Jul 11th 1:18:42 pm

So your equation is y = x^2 + 7x + 12

Jul 11th 1:18:57 pm

Can you tell me what the values for a and b are?

✓ *C3: Guiding question*

Jul 11th 1:19:07 pm

Yes

Jul 11th 1:19:07 pm

a=1 B=7

Jul 11th 1:19:34 pm

Great job!

✓ *C2: Positive language*

Jul 11th 1:19:42 pm

You got it!

Jul 11th 1:19:45 pm

Now we can plug that into our equation h = -b/2a

✓ *B2: Guide student towards next step*

Jul 11th 1:20:05 pm

Ok give me a second to get the answer

Jul 11th 1:20:21 pm

No problem! Take your time :)

✓ *C2: Reassuring language*

Jul 11th 1:20:28 pm

-7/2

Jul 11th 1:21:07 pm

You got it!

Jul 11th 1:21:14 pm

So we know that this value is our h, which is our x coordinate of our vertex

✓ *B2: Clarifies step further*

Jul 11th 1:21:31 pm

-3.5

Jul 11th 1:21:49 pm

Yup! That's our x coordinate

Jul 11th 1:21:58 pm

Now any ideas on how we can find the y coordinate?

✓ *C3: Open question*

Jul 11th 1:22:08 pm

No

Jul 11th 1:22:15 pm

Let's think about it for a minute, it's actually pretty easy :)

Jul 11th 1:22:37 pm

Hey question

Jul 11th 1:22:50 pm

Sure thing!

Jul 11th 1:22:59 pm

You said -3.5 is the x coordinate is that not our vertex ?

Jul 11th 1:23:22 pm

Well remember our vertex has two values, and x coordinate and a y coordinate

✓ *C1: Adapts explanation to student's confusion*

Jul 11th 1:23:52 pm

Ok so we haven't found our vertex yet ?

Jul 11th 1:24:22 pm

A vertex is an ordered pair, so we have to find both the x and y values for the ordered pair

Jul 11th 1:24:29 pm

You're correct, we've found half of the vertex, but we need to find the other half :)

Jul 11th 1:24:44 pm

does that make sense?

✓ *C1: Check with the student to ensure understanding*

Jul 11th 1:24:51 pm

Yes

Jul 11th 1:25:12 pm

Sweet!

Jul 11th 1:25:18 pm

So back to trying to find the y coordinate of our vertex

Jul 11th 1:25:35 pm

We have an equation that gives us the x and y coordinates for each point on the graph, that equation is our y = x^2 + 7x + 12

✓ *B2: Guide student towards next step*

Jul 11th 1:25:45 pm

Ok

Jul 11th 1:26:03 pm

Now if we know that the x value is x = -3.5

Jul 11th 1:26:07 pm

How do you think we can solve for the y value?

✓ *C3: Invite student input*

Jul 11th 1:26:19 pm

Plug in x ?

Jul 11th 1:26:37 pm

Yup! you got it!

Jul 11th 1:26:50 pm

Give me a second to do the problem?

Jul 11th 1:26:53 pm

Sure thing! No rush!

Jul 11th 1:27:00 pm

✓ *C2: Reassuring language*

let me know if you need any help

Jul 11th 1:27:07 pm

Ok

Jul 11th 1:27:12 pm

y= -24.75

Jul 11th 1:28:31 pm

Not quite, let's take a look at it together :)

✓ *C1: Tutor redirects student's mistake without causing stress*

Jul 11th 1:28:51 pm

So we plug in -3.5 for all the x's

Jul 11th 1:29:02 pm

Yes was I supposed to do-3.5 squared?

Jul 11th 1:29:22 pm

Yup :)

Jul 11th 1:29:31 pm

Want to give it another try?

✓ *C3: Encourage student to take step independently*

Jul 11th 1:29:42 pm

I did hmmm , idk what I did wrong

Jul 11th 1:29:54 pm

Ok, no problem! Let's go over it together :)

✓ *C2: Use of “we” language*

Jul 11th 1:30:07 pm

When we plug in x = -3.5 into our equation, we get

✓ *C1: Adapts explanation to student's confusion*

Jul 11th 1:30:25 pm

y = (-3.5) * (-3.5) + 7 * (-3.5) + 12

✓ *B2: Breaks down step further*

Jul 11th 1:30:55 pm

Is that what you got?

Jul 11th 1:30:59 pm

Y=-0.25

Jul 11th 1:31:38 pm

Me too!

Jul 11th 1:31:46 pm

Great job Jaiden!

✓ *C2: Positive language*

Jul 11th 1:31:50 pm

Ok

Jul 11th 1:31:58 pm

So what does that give us for our vertex?

✓ *C3: Invite student input*

Jul 11th 1:31:58 pm

Not sure how to figure that out

Jul 11th 1:32:18 pm

Well let's think about it

✓ *C1: Adapts explanation to student's confusion*

Jul 11th 1:32:35 pm

We already figured out the x value

Jul 11th 1:32:43 pm

and we just figured out the y value

Jul 11th 1:32:49 pm

Yes

Jul 11th 1:32:57 pm

and remember the vertex is just an ordered pair

Jul 11th 1:33:07 pm

Ok nvm i know now

Jul 11th 1:33:21 pm

Great!

Jul 11th 1:33:30 pm

What do you think it is?

Jul 11th 1:33:34 pm

-3.5,-0.25 ?

Jul 11th 1:33:45 pm

You got it!

Jul 11th 1:33:58 pm

Great job Jaiden!

✓ *C2: Positive language*

Jul 11th 1:34:02 pm

Great now in to line of symmetry

Jul 11th 1:34:16 pm

Yup! That's an easy one though, because we've already found the vertex :)

Jul 11th 1:34:35 pm

Ok

Jul 11th 1:34:41 pm

Do you know how we can find the line of symmetry if we already know the vertex?

✓ *C3: Invite student input*

Jul 11th 1:34:52 pm

No

Jul 11th 1:35:19 pm

Ok, well the line of symmetry is the line x = ..... where the graph looks the same on both sides of it

✓ *C1: Adapts explanation to student's confusion*

Jul 11th 1:35:55 pm

So to find this, all we have to do is find the vertex

Jul 11th 1:36:08 pm

Then the line of symmetry is x = (the x value of the vertex)

Jul 11th 1:36:25 pm

So -3.5 ?

Jul 11th 1:36:37 pm

Yup! x = -3.5

Jul 11th 1:36:46 pm

you got it!

✓ *C2: Positive language*

Jul 11th 1:36:51 pm

Now onto y intercept .... the hardest thing

Jul 11th 1:37:14 pm

It's not too bad! We'll be able to find it pretty easily :)

✓ *C2: Reassuring language*

Jul 11th 1:37:30 pm

Ok

Jul 11th 1:37:40 pm

Can you tell me what the y intercept means?

✓ *C3: Encourages student to share existing knowledge*

Jul 11th 1:37:46 pm

Where a line intercepts the y axis

Jul 11th 1:38:10 pm

perfect! So when the line crosses the y axis, what is the x value for that point?

✓ *C3: Guiding question*

Jul 11th 1:38:41 pm

0

Jul 11th 1:39:01 pm

You got it!

Jul 11th 1:39:04 pm

So remember we have the equation for our function

✓ *B2: Guide student towards next step*

Jul 11th 1:39:12 pm

Yes

Jul 11th 1:39:17 pm

and we know x = 0

Jul 11th 1:39:24 pm

So how do you think we can find the y value?

✓ *C3: Guiding question*

Jul 11th 1:39:32 pm

Plug in the x value

Jul 11th 1:39:58 pm

Yup! we can plug in x = 0 into our equation

✓ *C3: Encourage student to take the next step*

Jul 11th 1:40:11 pm

and when we do that, what do we get as the value for y?

Jul 11th 1:40:24 pm

Ok let me do it right quick

Jul 11th 1:40:40 pm

Sure thing!

Jul 11th 1:40:45 pm

y=12

Jul 11th 1:41:19 pm

you got it!

Jul 11th 1:41:31 pm

So what is our y intercept? (remember it's an ordered pair)

✓ *C3: Encourage student to take the next step*

Jul 11th 1:41:44 pm

0,12

Jul 11th 1:42:21 pm

You got it!

Jul 11th 1:42:26 pm

Great job on this one Jaiden!

Jul 11th 1:42:32 pm

You did very well :)

✓ *C2: Positive language*

Jul 11th 1:42:39 pm

Thanks

Jul 11th 1:43:00 pm

Is there anything else I can help you with today?

✓ *Tutor checks to make sure student doesn't need further help*

Jul 11th 1:43:11 pm

No thank you I think you've gibven me the tools to complete my problems now

Jul 11th 1:43:37 pm

Great! That's really good to hear!

Jul 11th 1:43:53 pm

If you need some more help, you know where to find us ;)

✓ *Conclusion: Invites student back, warm send off*

Jul 11th 1:44:04 pm

Ok

Jul 11th 1:44:08 pm