

Jan 31st 5:42:27 pm

Alex!

Jan 31st 5:42:29 pm

I'm connecting you with a tutor now.

Jan 31st 5:42:32 pm

TUTOR FOUND, NOW REVIEWING PROBLEM AT NO CHARGE

Jan 31st 5:42:32 pm

SESSION STARTED AT 9:42 AM

Jan 31st 5:42:50 pm

Welcome back Alex!

Jan 31st 5:42:55 pm

My name is Ms. Peskin and I will be your tutor for this session. How are you today?

Jan 31st 5:43:00 pm ✓ *Introduction: Builds rapport with warm greeting*

Hi!

Jan 31st 5:43:01 pm

Good what about u?

Jan 31st 5:43:13 pm

I'm well, thanks!

Jan 31st 5:43:19 pm

Have you tried this problem at all yet?

Jan 31st 5:43:26 pm ✓ *A1: Determine progress*

No im extremely horrible when it comes to these types of problems.

Jan 31st 5:43:41 pm

That's okay! We can do it together :)

Jan 31st 5:43:50 pm ✓ *C2: Use of "we" language*

What do you know about sequences?

Jan 31st 5:44:02 pm ✓ *A1: Probe the student's understanding of concepts*

Not much actually

Jan 31st 5:44:11 pm

Okay, then let's start with a mini lesson :)

Jan 31st 5:44:21 pm

A sequence is a fancy way to say a pattern, so do you see a pattern in these numbers?

Jan 31st 5:44:38 pm ✓ **C3: Invites student's input with guiding question**

It's going down each time by 6

Jan 31st 5:44:58 pm

perfect!

Jan 31st 5:45:03 pm

once you can identify how much it goes up or down each time, we call that "d" for the "common difference"

Jan 31st 5:45:19 pm

so for this problem, d would be -6 (since it goes down 6, not up 6)

Jan 31st 5:45:40 pm ✓ **B2: Tutor builds on student's input**

does that make sense so far?

Jan 31st 5:45:44 pm ✓ **C1: Check with the student to ensure understanding**

Yes

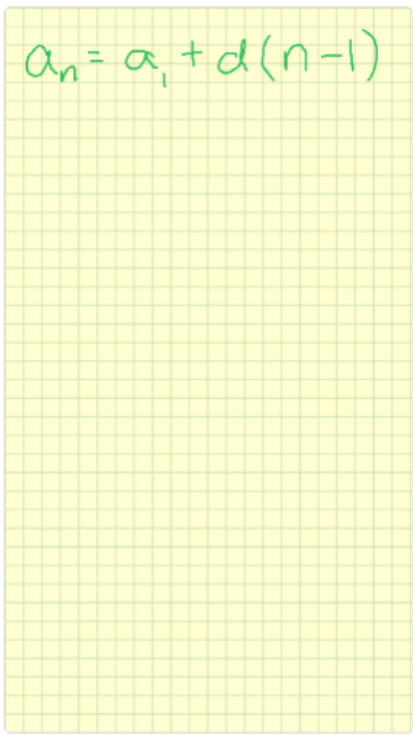
Jan 31st 5:45:54 pm

perfect!

Jan 31st 5:45:59 pm

so now I am going to write an equation on the board for us to talk about :)

Jan 31st 5:46:08 pm


$$a_n = a_1 + d(n-1)$$

Jan 31st 5:46:20 pm ✓ **B2: Uploaded images help the student visualize the problem and follow along**

Have you seen this equation before?

Jan 31st 5:46:24 pm ✓ **C3: Encourages student to share existing knowledge**

No

Jan 31st 5:46:30 pm

Alright, well I suggest you write it down some place you will find it again easily

Jan 31st 5:46:43 pm

this is a very important equation for arithmetic sequences

Jan 31st 5:46:55 pm

Alright I wrote it down

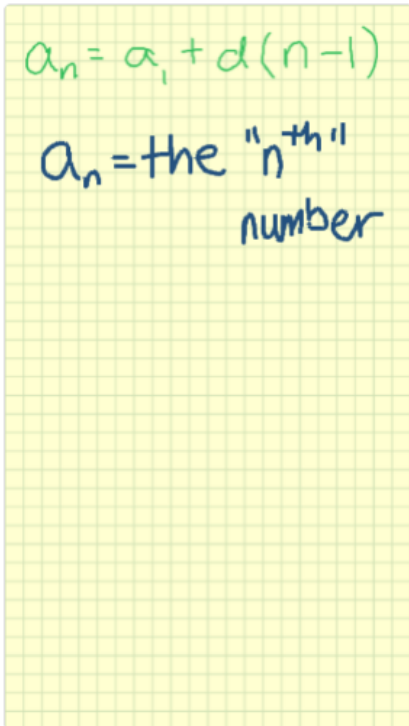
Jan 31st 5:47:28 pm

Okay, great :)

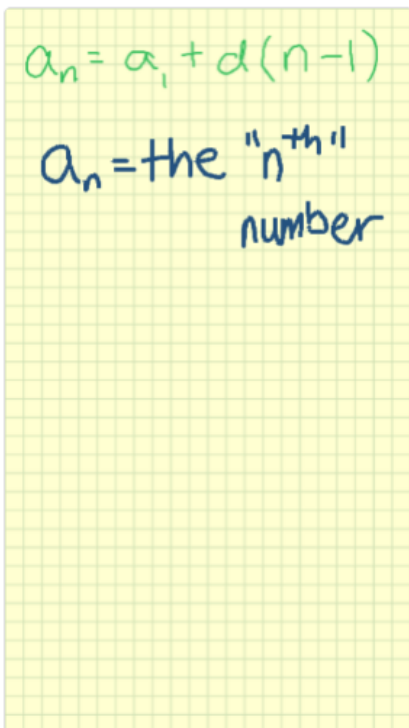
Jan 31st 5:47:32 pm

So now let's talk about each variable

Jan 31st 5:47:36 pm



Jan 31st 5:47:55 pm



Jan 31st 5:47:56 pm

✓ **B2: Break down key information / C1: Adapt to student's knowledge gap**

what i just put up on the board is maybe a little weird

Jan 31st 5:48:11 pm

so let's talk about what it means

Jan 31st 5:48:17 pm

this "a_n" thing is just a way to represent which number we want to find in the sequence

Jan 31st 5:48:42 pm

for this problem, we are looking for the 30th number, so n would be 30

Jan 31st 5:48:54 pm

does that make sense so far?

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

Jan 31st 5:49:15 pm

Yes

Jan 31st 5:49:21 pm

okay, so now we know what a_n is, we know n , and we know d

Jan 31st 5:49:39 pm

we just have 1 variable left and it is a_1

Jan 31st 5:49:47 pm

any idea what that thing is?

Jan 31st 5:49:51 pm ✓ **C3: Invite student input**

Uh no

Jan 31st 5:50:01 pm

✓ **B2: Easy to follow explanation / C1: Adapt instruction to student gap**

see how the 1 is down below the a ?

Jan 31st 5:50:12 pm

kind of how the n is down there on the other side

Jan 31st 5:50:17 pm

remember, when you see this notation, that is just a fancy way to say "the first term of the sequence"

Jan 31st 5:50:32 pm

so what is the first number in the pattern?

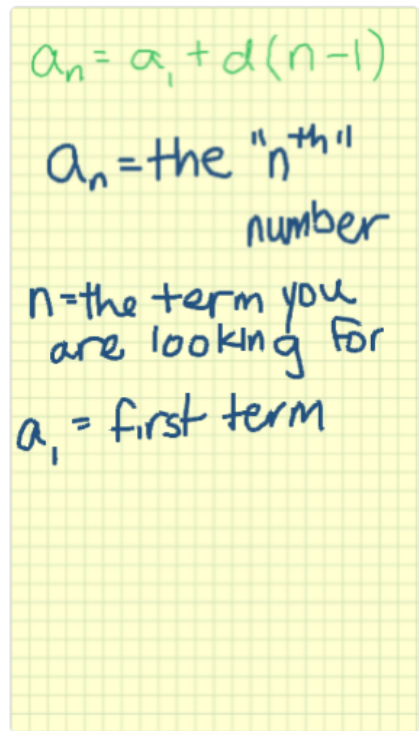
Jan 31st 5:50:37 pm ✓ **C3: Guiding question**

12

Jan 31st 5:50:45 pm

great!

Jan 31st 5:50:51 pm



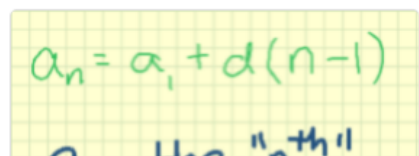
Jan 31st 5:51:01 pm ✓ **B2: Uploads helpful information to supplement explanation**

so here are some notes on what we just talked about

Jan 31st 5:51:07 pm

oops, let me add in information about "d"!

Jan 31st 5:51:13 pm



$a_n = \text{the } n$
number
 $n = \text{the term you}$
are looking for
 $a_1 = \text{first term}$
 $d = \text{common diff.}$

Jan 31st 5:51:27 pm

make sure you have that all written down for future reference!

Jan 31st 5:51:37 pm

Alright I wrote them down

Jan 31st 5:52:08 pm

$a_n = a_1 + d(n-1)$
 $n = 30$
 $a_1 = 12$
 $d = -6$

Jan 31st 5:52:17 pm

and we have also identified what each variable is equal to in this problem

Jan 31st 5:52:27 pm

so now, why don't you try to plug those numbers into the right side of the equation?

Jan 31st 5:52:41 pm ✓ **C3: Invite student to proceed independently**

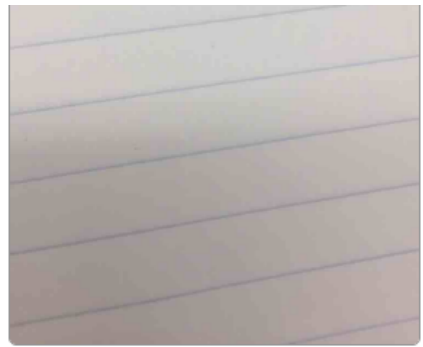
Sure

Jan 31st 5:52:52 pm

Take a picture of your work, or if you can get to the answer, let me know what you get!

Jan 31st 5:53:31 pm ✓ **C1: Checks in with the student to ensure understanding**

once.
 $12^{30} = 12 + -6(30-1)$



Jan 31st 5:54:17 pm

that is good, it looks like the notation is maybe a little confusing for you though

Jan 31st 5:54:37 pm ✓ **C2: Acknowledge student's mistake without causing stress**

$$a_n = a_1 + d(n-1)$$

$$n = 30$$

$$a_1 = 12$$

$$d = -6$$

$$a_{30} = 12 - 6(30-1)$$

Jan 31st 5:54:39 pm

here's how i wrote it out

Jan 31st 5:54:42 pm

my right side looks the exact same as yours (i believe) but on the left, you will keep that as "a_30"

Jan 31st 5:55:01 pm

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

Quick question

Jan 31st 5:55:20 pm

sure!

Jan 31st 5:55:27 pm

Why do u have 12-6

Jan 31st 5:55:31 pm

I have 12+-6

Jan 31st 5:55:41 pm

✓ **B2: Explain rationale behind step**

that's two ways to say the same thing

Jan 31st 5:55:50 pm

Ooh ok

Jan 31st 5:55:58 pm

12-6=6 and 12+-6 = 6

Jan 31st 5:56:00 pm

so either way is completely acceptable!

Jan 31st 5:56:06 pm

are you comfortable with that?

the 30th number in the sequence

Jan 31st 5:56:24 pm ✓ **C1: Check with the student to ensure understanding**

Yes

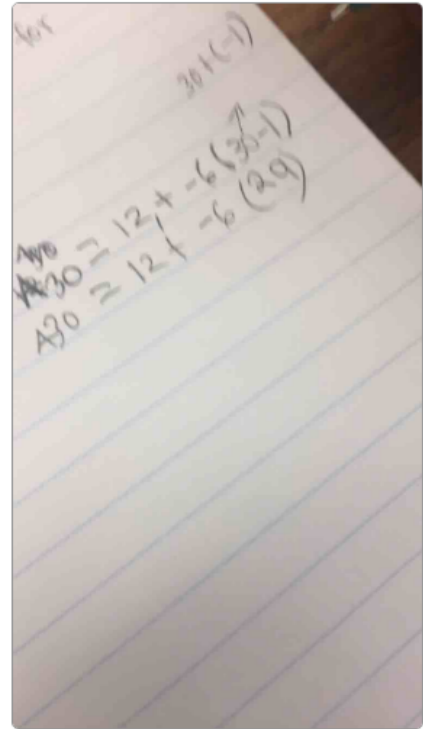
Jan 31st 5:56:40 pm

okay, so from here you just want to calculate the right side of your equation

Jan 31st 5:56:52 pm ✓ **C3: Encourage student to take the first step**

remember to use PEMDAS!

Jan 31st 5:56:57 pm



Jan 31st 5:57:52 pm

great start!

Jan 31st 5:57:59 pm ✓ **C2: Motivates student with encouraging language**

I multiply -6 times 29?

Jan 31st 5:58:04 pm

right :)

Jan 31st 5:58:07 pm

Next I do 12+-174?

Jan 31st 5:59:05 pm

perfect!

Jan 31st 5:59:11 pm

Or A times 30

Jan 31st 5:59:11 pm

Oh

Jan 31st 5:59:15 pm

✓ **B2: Clarifies step further**

nope, that side doesn't get touched at all

Jan 31st 5:59:18 pm

at the very end it will still look like a_30

Jan 31st 5:59:25 pm

remember, that's just another way to say "the 30th number in the sequence"

Jan 31st 5:59:40 pm

Ooh

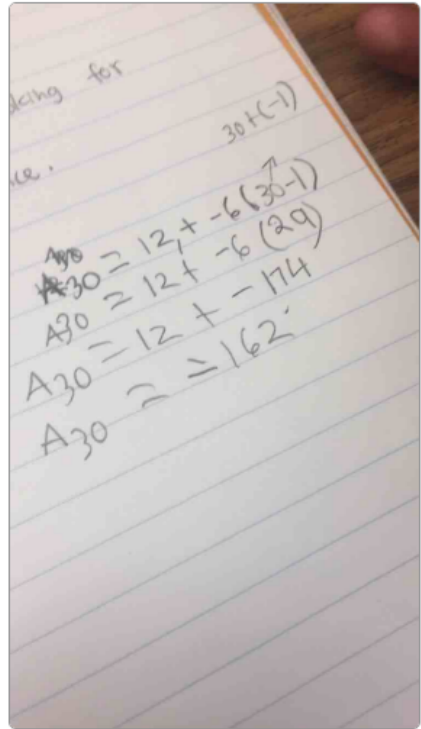
Jan 31st 6:00:00 pm

so, what do you get as your answer?

Jan 31st 6:00:10 pm ✓ **C3: Invite student input**

Alright thx that part was a bit confusing

Jan 31st 6:00:12 pm



Jan 31st 6:00:18 pm

you are welcome :)

Jan 31st 6:00:22 pm

-162

Jan 31st 6:00:26 pm

✓ **C2: Positive language**

yes!

Jan 31st 6:00:29 pm

that's the correct answer :)

Jan 31st 6:00:32 pm

great job!

Jan 31st 6:00:34 pm

Woot

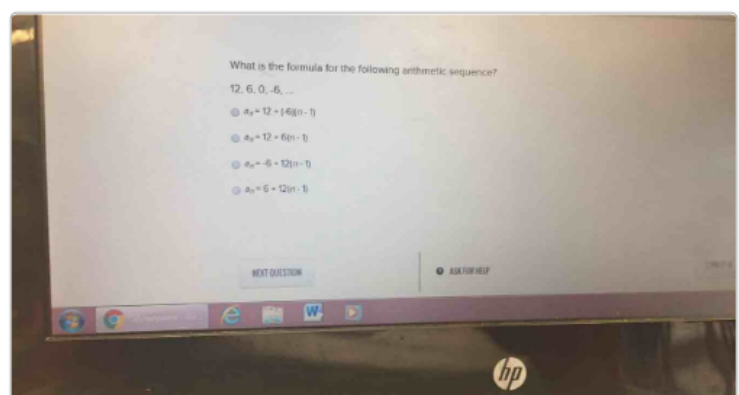
Jan 31st 6:00:40 pm

I have a few more problems

Jan 31st 6:00:45 pm

okay, let's try them!

Jan 31st 6:00:52 pm ✓ **Tutor is friendly and eager to provide more help**



Jan 31st 6:01:12 pm

do you have any guesses about this one?

Jan 31st 6:01:33 pm ✓ **A1: Determine student's level of understanding**

Hmm

Jan 31st 6:01:45 pm

look back at what we did last time - these are the same numbers!

Jan 31st 6:02:01 pm

we have actually already written this equation

Jan 31st 6:02:19 pm

✓ **B2: Guide student to make a connection between the two problems**

The first one looks right

Jan 31st 6:02:21 pm

it is :)

Jan 31st 6:02:29 pm

good eye

Jan 31st 6:02:36 pm

Wow you are a good math tutor

Jan 31st 6:02:46 pm

well thank you!

Jan 31st 6:02:52 pm

This seems a lot more easy

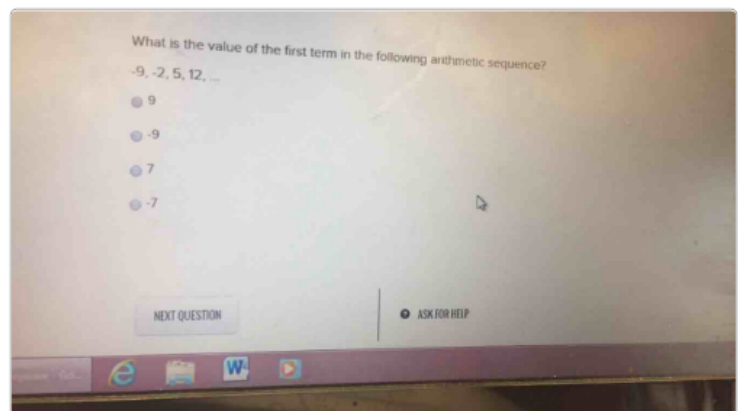
Jan 31st 6:02:57 pm

you are doing an excellent job with this :)

Jan 31st 6:02:58 pm ✓ **C2: Motivates student with encouraging language**

i'm so glad I could help! what else do you have?

Jan 31st 6:03:08 pm ✓ **Tutor checks to see if student needs more help**



Jan 31st 6:03:08 pm

take a guess on this one too

Jan 31st 6:03:23 pm ✓ **A1: Determine student's level of understanding**

Jan 31st 6:03:28 pm

they are asking for "the first term"

Jan 31st 6:03:28 pm

-7?

Jan 31st 6:03:49 pm

✓ **B2: Tutor ties step back to previous problem to facilitate understanding**

close, look back at the last problem

Jan 31st 6:03:57 pm

remember on that one we said "the first term" was 12

Jan 31st 6:04:05 pm

because it was the first number we saw

Jan 31st 6:04:09 pm

Positive 7

Jan 31st 6:04:27 pm

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

that is the "d" in this problem

Jan 31st 6:04:35 pm

or how much it changes each time

Jan 31st 6:04:39 pm

which is important, but not what they are asking for

Jan 31st 6:04:45 pm

they just want you to tell them the first number in the list for this problem

Jan 31st 6:04:54 pm

"the first term" just means "the first number in the list we give you"

Jan 31st 6:05:23 pm

-9?

Jan 31st 6:05:34 pm

yes!! that's it

Jan 31st 6:05:39 pm

✓ **C2: Positive language**

seems silly for them to ask for that, right?

Jan 31st 6:05:49 pm

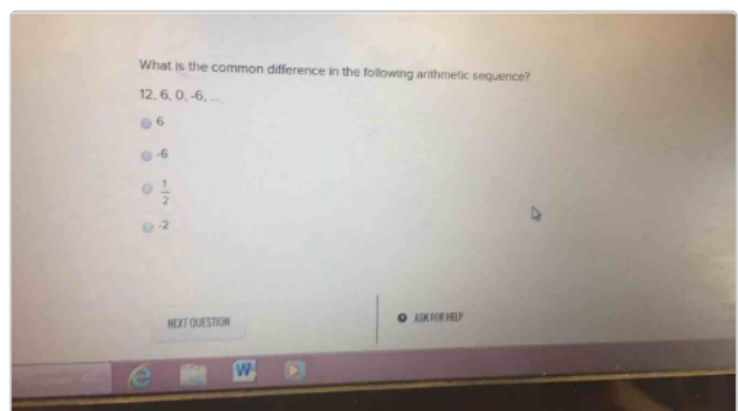
Yeah it does :)

Jan 31st 6:05:59 pm

i know, but remember, that is "a₁" in your equation

Jan 31st 6:06:11 pm

✓ **B2: Ties what they've learned together**



Jan 31st 6:06:14 pm

so it's important to remember

Jan 31st 6:06:15 pm

Good thing I wrote that down

Jan 31st 6:06:23 pm

oh you know this one already!!

Jan 31st 6:06:29 pm ✓ **C2: Motivates student with encouraging language**

what is the common difference, or what is the pattern for this problem?

Jan 31st 6:06:49 pm ✓ **C3: Guiding question**

6

Jan 31st 6:07:02 pm

up or down?

Jan 31st 6:07:06 pm ✓ **C1: Adapts to student's response with follow-up question**

Down

Jan 31st 6:07:11 pm

So it would be -6?

Jan 31st 6:07:16 pm

right! :)

Jan 31st 6:07:19 pm

i can tell you are getting this more and more

Jan 31st 6:07:32 pm ✓ **C2: Encouraging language**

I am well those were all the problems

Jan 31st 6:07:43 pm

Thank you so much!

Jan 31st 6:07:50 pm

you are welcome!

Jan 31st 6:07:55 pm

thank you for choosing Yup :)

Jan 31st 6:08:02 pm ✓ **Conclusion: Tutor thanks student for choosing Yup**

Hopefully if I need help again I'll get you as a tutor

Jan 31st 6:08:06 pm

Have a good day!

Jan 31st 6:08:10 pm

I hope so too, you too!

Jan 31st 6:08:14 pm

great job today :)

Jan 31st 6:08:17 pm ✓ **Conclusion: Warm send off**