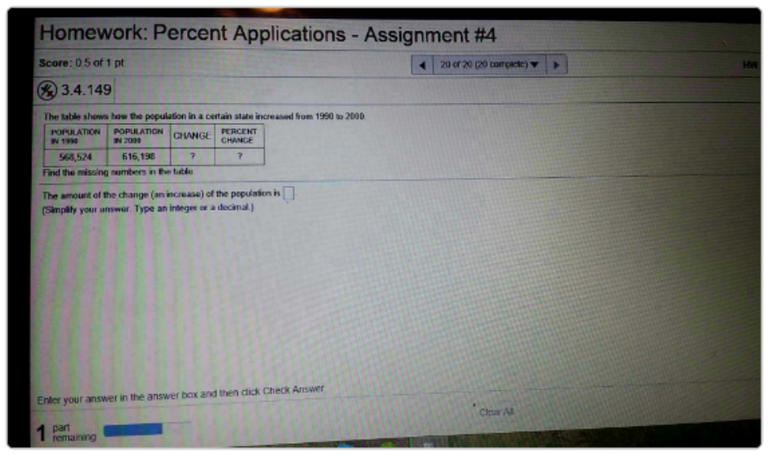


Nov 8th 4:16:46 am

Hello Dorothy.:)

Nov 8th 4:17:26 am ✓ *Introduction: Greets student by name*

Welome back to Yup!

Nov 8th 4:17:32 am ✓ *Introduction: Welcomes student back to the app*

hi

Nov 8th 4:17:39 am

I'm Ms. Kothari, your Math tutor for this session.

Nov 8th 4:17:39 am ✓ *Introduction: Introduces herself by last name*

I see the image that you have uploaded.

Nov 8th 4:17:54 am

I am looking over your question now.

Nov 8th 4:17:57 am ✓ *A1: Confirm understanding of the student's problem*

This is an interesting problem! In no time, you'll be able to solve problems like these all by yourself. Are you ready?

Nov 8th 4:18:24 am

yes

Nov 8th 4:18:37 am

How far have you gotten in solving this problem? Would you like to show me your work so far?

Nov 8th 4:18:45 am ✓ *A1: Determine progress*

I don't have any work so far

Nov 8th 4:19:36 am

Ok. No problem.

Nov 8th 4:19:47 am

Any guesses on what could be thefirst step?

Nov 8th 4:19:55 am ✓ *A1: Gauge student's level of understanding/familiarity*

no

Nov 8th 4:20:14 am

Ok. Why don't you read the question once more carefully.

Nov 8th 4:20:50 am

Can you try telling me what the question is asking us to find in the first box?

Nov 8th 4:21:19 am

★ *A1/C3: Nudges student towards thinking about their problem before jumping into an explanation*

the amount of change

Nov 8th 4:21:49 am

Correct! Good!

Nov 8th 4:22:03 am ✓ *C2: Positive language*

Also what data is given to us in the question?

Nov 8th 4:22:12 am

1990 568,524 2000 616,198

Nov 8th 4:22:52 am

Correct! So we are given the numbers for 1990 and 2000.

Nov 8th 4:23:22 am

We are asked to find the change.

Nov 8th 4:23:27 am

So what shall we do with those numbers?

Nov 8th 4:23:34 am ✓ *C3: Invite student input*

*

Nov 8th 4:23:46 am

÷

Nov 8th 4:23:53 am

Do you mean divide?

Nov 8th 4:23:59 am

yes

Nov 8th 4:24:07 am

Well not exactly, but well tried. See its like this. Suppose there are 25 students in your class this year and there will be 35 students in your class next year.

Nov 8th 4:25:14 am ✓ *C1/C2: Tutor redirects/adapts to student's confusion in positive way*

If we want to find the change (or increase) in number of students, what would we do?

Nov 8th 4:25:32 am ✓ *B2: Presents a quick example to guide the student in the right direction*

subtract

Nov 8th 4:27:07 am

Exactly!!

Nov 8th 4:27:17 am

Well thought!

Nov 8th 4:27:19 am

We subtract!

Nov 8th 4:27:22 am

✓ *C2: Encouraging words / punctuation*

It is a similar situation in our problem as well.

Nov 8th 4:27:31 am ✓ *B2: Draws connection between the example and their problem*

We are given the population for 1990 and that for 2000. The numbers are: 568,524 and 616,198

Nov 8th 4:27:59 am

We are asked to find the change (or increase), so what shall we do here as well?

Nov 8th 4:28:12 am ✓ *C3: Guiding question*

568,524/616,198*100

Nov 8th 4:29:06 am

Why would you divide?

Nov 8th 4:29:30 am ✓ *C2: Asks student to justify their thought process*

Please think again.

Nov 8th 4:29:33 am

We are only interested in the change. In the number of persons increased in 2000 as compared to 1990.

Nov 8th 4:29:56 am ✓ *B2/C1: Tutor clarifies key information to ensure they are on the same page*

So what operation should we do?

Nov 8th 4:30:05 am ✓ *C3: Guiding question*

Try again please.

Nov 8th 4:30:09 am ✓ *C2/C3: Politely asks student to try again rather than correcting them*

You were correct earlier when you said that we need to subtract when finding change from 25 to 35 students.

Nov 8th 4:30:38 am

Here instead of 25 students we have 568,524 people and instead of 35 students we have 616,198 people.

Nov 8th 4:31:12 am

✓ *B2: Tutor ties steps back to previously demonstrated example to facilitate understanding*

So what shall we do here as well?

Nov 8th 4:31:18 am

new #- original #

Nov 8th 4:31:27 am

Yes!! Exactly!!

Nov 8th 4:31:38 am

We subtract!

Nov 8th 4:31:40 am

The new number minus the original number.

Nov 8th 4:31:47 am

Good thinking!

Nov 8th 4:31:50 am

✓ *C2: Encouraging words / punctuation*

So now can you try doing that?

Nov 8th 4:31:55 am ✓ *C3: Invite student to proceed independently*

568524×100

Nov 8th 4:32:26 am

I'm afraid Dorothy that is not correct again. However, I'm happy that you are trying.

Nov 8th 4:33:02 am ✓ *C2: Acknowledge student's mistake without negativity*

You just said that we do new number minus original number.

Nov 8th 4:33:19 am ✓ *C1: Adapts explanation to student's confusion / B2: Ties explanation back to earlier in the session*

So what is the new number here?

Nov 8th 4:33:24 am ✓ *C3: Guiding question*

47674

Nov 8th 4:33:37 am

Yes! That is the answer for the 'change'.

Nov 8th 4:34:08 am

Its correct!

Nov 8th 4:34:11 am

Good!

Nov 8th 4:34:12 am

✓ *C2: Encouraging words / punctuation*

Can you explain how you got that?

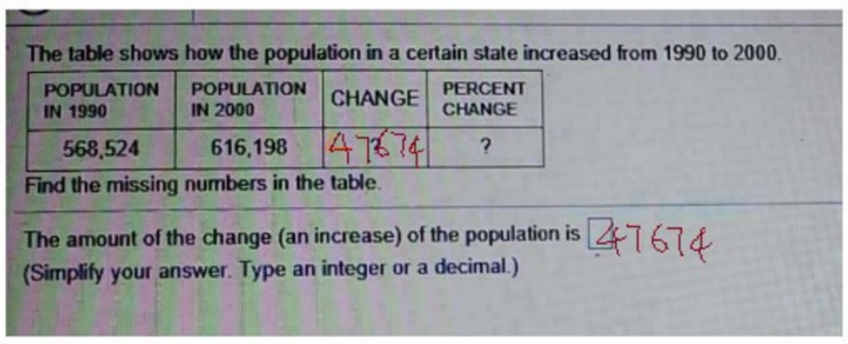
Nov 8th 4:34:16 am ✓ *C3: Ask student to justify their thought process*

subtract

Nov 8th 4:34:43 am

What did you subtract and from what?

Nov 8th 4:34:52 am ✓ *C3: Ask student to justify their thought process*



Nov 8th 4:35:18 am ✓ *B2: Uses whiteboard to show their progress*

ok I understand that I just don't know how to get change of the population

Nov 8th 4:36:14 am

You just got that.

Nov 8th 4:36:36 am

You just found the change in population by subtracting the 2000 population from the 1990 population. Is that what you did?

Nov 8th 4:37:06 am ✓ *B2: Recap of completed step to ensure understanding*

yes

Nov 8th 4:37:36 am

Alright, then that's correct! Good work so far!

Nov 8th 4:37:52 am ✓ *C2: Encouraging words / punctuation*

Shall we continue?

Nov 8th 4:37:55 am

Note: This would have been a good opportunity to check for understanding ("Any questions about this so far?" or "Does that step make sense okay?").

"Shall we continue?" wasn't really necessary here-- the student was ready. (see message @ 4:36:14am)

yes

Nov 8th 4:38:02 am

Ok, now look at the next box.

Nov 8th 4:38:08 am

It asks for percent change.

Nov 8th 4:38:20 am

yea

Nov 8th 4:38:31 am

Any idea how that can be calculated?

Nov 8th 4:38:32 am ✓ *C3: Invite student input*

no

Nov 8th 4:39:05 am

There is a formula for calculating percentages of numbers. are you aware of it?

Nov 8th 4:39:25 am ✓ *C3: Encourages student to share existing knowledge*

yes change /original *100

Nov 8th 4:40:40 am

Woohoo! You are right :)

Nov 8th 4:40:56 am

✓ *C2: Encouraging words / punctuation*

That is the formula!

Nov 8th 4:40:59 am

So now for your problem, what is the change that you calculated in the first step?

Nov 8th 4:41:15 am ✓ *C3: Guiding question*

47674÷568,524

Nov 8th 4:42:39 am

Yes that is correct so far! good! continue pleae.

Nov 8th 4:42:52 am ✓ *C3: Encourage student to take step independently*

*Please

Nov 8th 4:42:55 am

✓ *Tutor quickly corrects typo*

0.1

Nov 8th 4:43:45 am

10%

Nov 8th 4:44:13 am

Please give answer up to 3 decimal places.

Nov 8th 4:44:13 am ✓ *C1: Adapts explanation to student's error*

Please try again. Are you using a calculator?

Nov 8th 4:44:29 am

✓ *C2/C3: Politely asks student to try again rather than correcting them*

yes

Nov 8th 4:45:25 am

Ok, please try once more.

Nov 8th 4:45:36 am

Kindly do not round off untill the last step.

Nov 8th 4:45:44 am ✓ *C1: Adapts instruction to student's error*

0.08385573

Nov 8th 4:46:03 am

Yes that's better.

Nov 8th 4:46:14 am ✓ *C2: Reassuring language*

Now multiply that by 100

Nov 8th 4:46:18 am

Note: This could have been asked of the student rather than given away ("How can we re-write this as a percent?")

What percent do you get?

Nov 8th 4:46:21 am ✓ *C3: Guiding question*

8.3856

Nov 8th 4:47:16 am

Yes. That is correct now. How many places are you asked to round off to?

Nov 8th 4:47:37 am ✓ *B1: Clarifies student's directions to ensure their answer is given in the correct form*

nearest tenth

Nov 8th 4:48:04 am

Ok. So please do that.

Nov 8th 4:48:16 am

Round off to nearest tenth.

Nov 8th 4:48:22 am ✓ *C3: Encourage student to take the next step*

8.4

Nov 8th 4:48:36 am

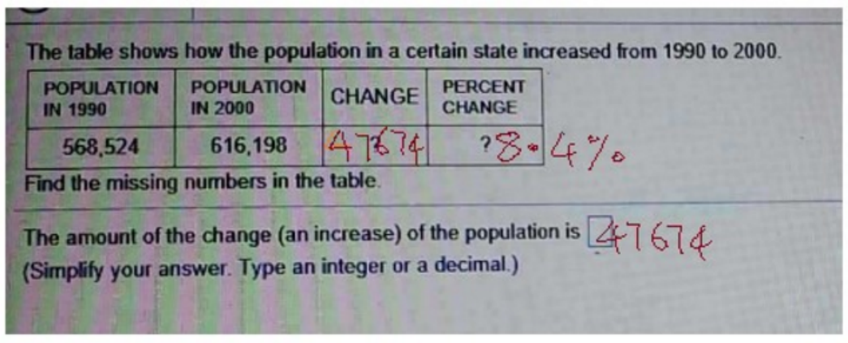
Correct! Good!

Nov 8th 4:48:47 am ✓ *C2: Positive language*

so that's your answer for percent change 8.4%

Nov 8th 4:48:59 am

Note: This could have been asked of the student. ("So what would our percent change be?")


The table shows how the population in a certain state increased from 1990 to 2000.

POPULATION IN 1990	POPULATION IN 2000	CHANGE	PERCENT CHANGE
568,524	616,198	47674	?8.4%

Find the missing numbers in the table.

The amount of the change (an increase) of the population is 47674

(Simplify your answer. Type an integer or a decimal.)

✓ *Tutor confirms final answer*

Nov 8th 4:49:24 am

That completes this solution.

Nov 8th 4:49:28 am

Any doubts with this one?

Nov 8th 4:49:31 am ✓ *C1: Check with the student to ensure understanding*

(Student ends session in a hurry before tutor could say goodbye, which is fine.)

Student ended session

Nov 8th 4:49:55 am