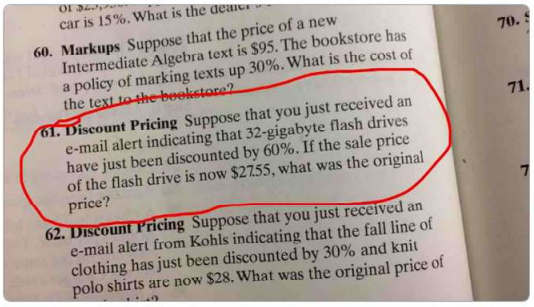

car is 15%. What is the dealer
60. **Markups** Suppose that the price of a new Intermediate Algebra text is $95. The bookstore has a policy of marking texts up 30%. What is the cost of the text to the bookstore?
61. **Discount Pricing** Suppose that you just received an e-mail alert indicating that 32-gigabyte flash drives have just been discounted by 60%. If the sale price of the flash drive is now $27.55, what was the original price?
62. **Discount Pricing** Suppose that you just received an e-mail alert from Kohls indicating that the fall line of clothing has just been discounted by 30% and knit polo shirts are now $28. What was the original price of
70.
71.

Sep 21st 9:31:13 pm

Welcome Justin, I'm finding you a tutor ASAP.

Sep 21st 9:31:15 pm

The tutor will look over your problem quickly and then you can get going.🚀

Sep 21st 9:31:17 pm

TUTOR FOUND, NOW REVIEWING PROBLEM AT NO CHARGE

Sep 21st 9:31:18 pm

Yupppppp 👍

Sep 21st 9:31:31 pm

Hello Justin!

Sep 21st 9:31:39 pm ✓ *Greets student by name*

SESSION STARTED AT 1:31 PM

Sep 21st 9:31:39 pm

I am Ms. Xymines and I will be your tutor for this session.

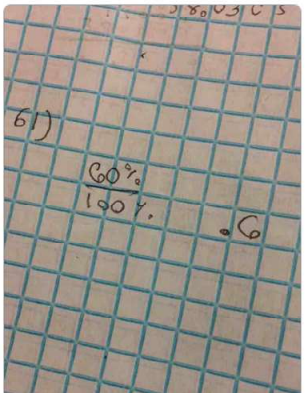
Sep 21st 9:31:45 pm ✓ *Introduces herself by last name*

Hi

Sep 21st 9:31:49 pm

Can you tell me what you have tried on this problem so far?

Sep 21st 9:31:57 pm ✓ *A1: Determine progress*



Sep 21st 9:32:20 pm

Not much

Sep 21st 9:32:24 pm

Okay not a problem!

Sep 21st 9:32:46 pm

Let's discuss it together. Do you usually do whole/part= whole/part in these questions?

Sep 21st 9:33:12 pm ✓ *A1: Determine starting point / probe student's level of understanding*

(Note: Asking content-specific questions up front could be overwhelming for students with limited background knowledge)

No

Sep 21st 9:33:37 pm

Okay. Can you tell me how you would generally solve percentage problems?

Sep 21st 9:34:04 pm ✓ *A1: Gauge student's existing knowledge*

(Just so I can do it the way you know. If not we can go ahead with the method I have in mind.)

Sep 21st 9:34:34 pm ✓ *C1: Adapt to student preferences*

Let's go with your method

Sep 21st 9:34:52 pm

Okay! Let's look at what we were told.

Sep 21st 9:35:18 pm ✓ *C2: Use of "we" language*

What is the $27.55?

Sep 21st 9:35:42 pm ✓ *A1: Probe student's level of understanding*

The price after the discount 40%

Sep 21st 9:36:08 pm

Hmm, are you sure about that 40%?

Sep 21st 9:36:28 pm ✓ *C2: Asks student to justify their thought process*

Well since there's a 60% discount, I just assumed that the 27.55 is the remaining 40%

Sep 21st 9:37:41 pm

Hmm, good thinking there.

Sep 21st 9:37:57 pm

But you mixed them up a bit.

Sep 21st 9:38:10 pm

You are correct that it is the remaining 40% after the 60% discount, NOT after a 40% discount.

Sep 21st 9:38:39 pm ✓ *(B2/C1: Tutor clarifies key information to ensure they are on the same page)*

(Note: Be careful when typing in all caps-- this could come across as a harsh tone by the reader.)

Does that make sense?

Sep 21st 9:38:58 pm ✓ *C1: Check with the student to ensure understanding*

Yeah that's what I mean

Sep 21st 9:39:12 pm

Meant

Sep 21st 9:39:17 pm

Oh, okay!
Sep 21st 9:39:20 pm

Great!
Sep 21st 9:39:22 pm ✓ *C2: Positive language*

So if we know that 40% of the whole is 27.55, how can we set up an equation to find the whole?
Sep 21st 9:39:45 pm ✓ *C3: Open question*

Not sure
Sep 21st 9:40:59 pm

No worries!
Sep 21st 9:41:11 pm ✓ *C2: Reassuring language*

Let us use a variable to represent the whole.
Sep 21st 9:41:23 pm

Say x.
Sep 21st 9:41:31 pm

We are saying that 40% of x is equal to 27.55.
Sep 21st 9:41:46 pm

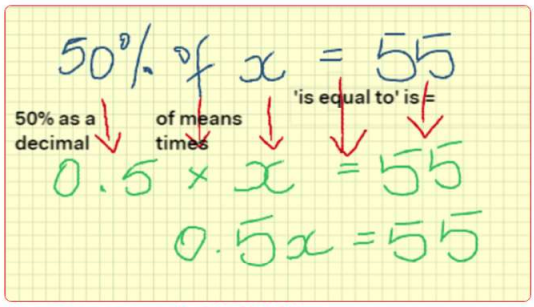
✓ *B2: Break down underlying concept/C1: Adapt to student's knowledge gap*

In math, what operation do we use for 'of'?
Sep 21st 9:42:04 pm ✓ *C3: Guiding question*

X/x?
Sep 21st 9:42:48 pm

Not quite. Let me send an example, one moment.
Sep 21st 9:43:03 pm ✓ *C1: Adapt instruction to student gap*

Okay
Sep 21st 9:44:48 pm



Slowest response Sep 21st 9:45:49 pm

Here I have shown an example of how we would go from words to an equation.
Sep 21st 9:46:02 pm

50% as a fraction is 0.5.
Sep 21st 9:46:10 pm

'of' means we multiply.
Sep 21st 9:46:19 pm

'is equal to' becomes the equal sign: '='.
Sep 21st 9:46:31 pm

✓ *B2: Demonstrate concept using similar example*

And we keep the x and the 55. This we can then solve by dividing both sides of the equation by 0.5 to get x = 110.

Sep 21st 9:46:57 pm

I see

Sep 21st 9:46:58 pm

Does that make sense?

Sep 21st 9:47:01 pm ✓ *C1: Check with the student to ensure understanding*

Yes

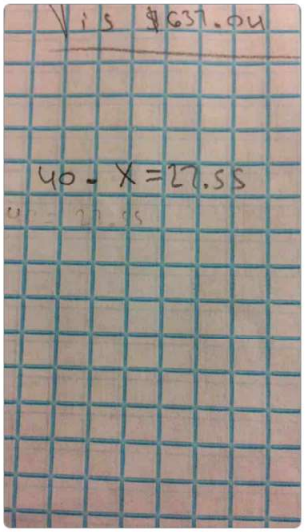
Sep 21st 9:47:33 pm

Great! Now, can you try with yours? It is 40% of x is 27.55.

Sep 21st 9:48:03 pm ✓ *C2: Invite student to proceed independently*

So for my problem it'll be 40 times X = 27.55

Sep 21st 9:48:26 pm



Sep 21st 9:48:50 pm

If you are dropping the percentage you would have to write it as a fraction or a decimal.

Sep 21st 9:49:07 pm ✓ *B1/C1: Redirect student error*

That is because 40% is not the same as 40.

Sep 21st 9:49:18 pm ✓ *B2: Explain rationale behind step*

.4

Sep 21st 9:49:20 pm

There you go!

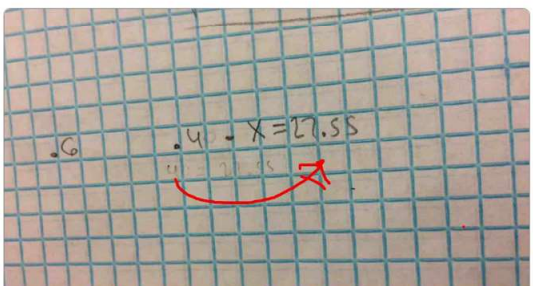
Sep 21st 9:49:25 pm ✓ *C2: Encouraging words / punctuation*

With that correction, that step would be perfect!

Sep 21st 9:49:39 pm

Can you try to solve for x now?

Sep 21st 9:49:45 pm ✓ *B2/C3: Guide student towards next step*



Sep 21st 9:50:34 pm

Isolate the x?

Sep 21st 9:50:44 pm

That's right! And how would we do that?

Sep 21st 9:50:55 pm ✓ *C2: Encouraging language / C3: Guiding question*

X=27.15

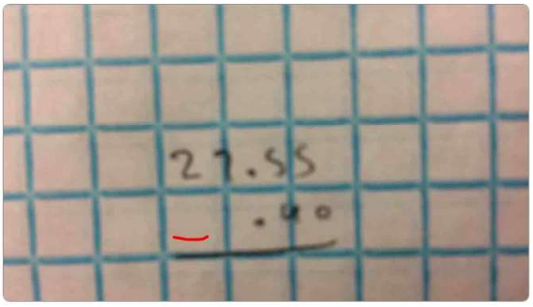
Sep 21st 9:52:03 pm

Did you subtract 0.4?

Sep 21st 9:52:22 pm

Yeah

Sep 21st 9:52:36 pm



Sep 21st 9:53:05 pm

Hmm, not quite. We can only subtract when we want to undo addition, for example, if we had x + 0.4 = 27.55.

Sep 21st 9:53:20 pm ✓ *C1: Tutor redirects student's mistake without causing stress*

But here we have 0.4 TIMES x = 27.55.

Sep 21st 9:53:32 pm ✓ *B2: Breaks down concept further / C1: Adapts to student's knowledge gap*

Can you tell me what operation cancels multiplication?

Sep 21st 9:53:41 pm ✓ *C3: Guiding question*

Division

Sep 21st 9:53:51 pm

There you go!

Sep 21st 9:54:13 pm ✓ *C2: Encouraging words / punctuation*

So we divide both sides by 0.4 (just as we divided both sides by 0.5 in the example above).

Sep 21st 9:54:36 pm ✓ *B2: (Tutor ties steps back to previously demonstrated example to facilitate understanding)*

Can you try that now?

Sep 21st 9:54:42 pm

Would I have to divide by -.4 or just .4

Sep 21st 9:55:23 pm

Hmm, remember we divide by the SAME number that x is being multiplied by.

Sep 21st 9:55:59 pm ✓ *B2: Provide rationale behind step*

(Note: Here we could've seen the underlying concept explored further as the student seems unsure about inverse operations.)

So it would be 0.4.

Sep 21st 9:56:06 pm

Does that make sense?

Sep 21st 9:56:11 pm ✓ *C1: Check with the student to ensure understanding*

Yes

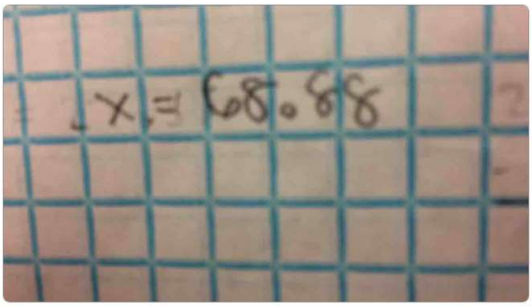
Sep 21st 9:56:16 pm

Great!

Sep 21st 9:56:27 pm ✓ *C2: Encouraging words / punctuation*

What is our answer now?

Sep 21st 9:56:34 pm



Sep 21st 9:56:53 pm

Good job!

Sep 21st 9:57:10 pm ✓ *C2: Encouraging words / punctuation*

Is it all clear now?

Sep 21st 9:57:16 pm ✓ *C1: Check with the student to ensure understanding*

So that's the original price

Sep 21st 9:57:52 pm

That's right!

Sep 21st 9:58:06 pm

Thanks

Sep 21st 9:58:26 pm

You're welcome!

Sep 21st 9:58:37 pm

Do you need more help?

Sep 21st 9:58:42 pm ✓ *Tutor checks to make sure student doesn't need further help*

No that's it thanks you

Sep 21st 9:58:59 pm

You're welcome! Thank you for using Yup! :)

Sep 21st 9:59:14 pm ✓ *Tutor thanks student for using Yup*