



Sep 27th 10:05:18 pm

Hey Paige W - welcome back 😊

Sep 27th 10:05:21 pm

You are being connected to a tutor right now!

Sep 27th 10:05:23 pm

Yupppppp 👍

Sep 27th 10:05:28 pm

Did you start on the problem, even just a little?

Sep 27th 10:05:31 pm

If so, take a 📷 of your work so I can send it to the tutor. There's no such thing as sending too little work 😊

Sep 27th 10:05:33 pm

Naw

Sep 27th 10:05:36 pm

TUTOR FOUND, NOW REVIEWING PROBLEM AT NO CHARGE

Sep 27th 10:05:38 pm

No worries 😊 your tutor can help you from the beginning!

Sep 27th 10:05:39 pm

👍 Okay!

Sep 27th 10:05:41 pm

It's tip time! 🎉

Sep 27th 10:05:44 pm

Yup tutors do not give away answers, they make sure you know how to solve the problem yourself. 🙌

Sep 27th 10:05:47 pm

 Thanks. Got anymore?

Sep 27th 10:05:54 pm

SESSION STARTED AT 5:05 PM

Sep 27th 10:05:55 pm

1 Hi Paige, I'm and I'll be helping you out.

Sep 27th 10:06:09 pm

2 Have you tried any work on the question?

Sep 27th 10:06:20 pm

Yes I've listed the multiples of 15 and 24

Sep 27th 10:06:47 pm

I'm supposed to factor it out

Sep 27th 10:07:15 pm

3 Okay, I'm guessing all the questions are asking you to simplify...

Sep 27th 10:07:24 pm

I have to factor each completely

Sep 27th 10:07:42 pm

4 Have you done any questions like this in class?

Sep 27th 10:07:42 pm

Yes

Sep 27th 10:07:46 pm

I've heard of factor by grouping but not sure how to do it

Sep 27th 10:08:02 pm

5 Well let's first try writing it out like this $(w + A)(w + B)$

Sep 27th 10:08:42 pm

Okay

Sep 27th 10:08:58 pm

6 Lets try and guess the numbers that go where A and B are...

Sep 27th 10:09:39 pm

Okay

Sep 27th 10:09:47 pm

7 We need them to multiply together to make -24

Sep 27th 10:10:04 pm

Won't one be negative and one be positive?

Sep 27th 10:10:12 pm

8 i.e. $A * B$

Sep 27th 10:10:15 pm

- 9

Yeah,

Sep 27th 10:10:20 pm
- 10

i.e. $A * B = -24$

Sep 27th 10:10:32 pm
- 11

and add together to give 9

Sep 27th 10:10:56 pm
- 12

... $A + B = 9$

Sep 27th 10:11:08 pm
-
- So will $A*B=A+b$. ?

Sep 27th 10:11:37 pm
- 13

No not quite...

Sep 27th 10:11:50 pm
- 14

What I've noticed is that there is a number that can be used to divide each of the three numbers in the equation by...

Sep 27th 10:12:21 pm
- 15

$(15w^2 + 9w - 24)$

Sep 27th 10:12:38 pm
-
- 3?

Sep 27th 10:13:01 pm
- 16

The 15, 9 and 24 can all be divided by 3 .

Sep 27th 10:13:00 pm
- 17

Yeah

Sep 27th 10:13:04 pm
- 18

So we can rewrite it as...

Sep 27th 10:13:24 pm
- 19

$3*(5w^2 + 3w - 8)$

Sep 27th 10:13:47 pm
- 20

Then we can go on as normal and factor the $5w^2 + 3w - 8$ part...

Sep 27th 10:14:24 pm
-
- Okay

Sep 27th 10:14:36 pm
- 21

Lets go back to the A and B's...

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- 22

We want to be able to write $5w^2 + 3w - 8$ as something like $(w + A)(w + B)$

Sep 27th 10:15:21 pm
- 23

So we want $5w^2 + 3w - 8 = (w + A)(w + B)$...

Sep 27th 10:15:42 pm

24

and we have to figure out A and B

Sep 27th 10:15:51 pm

25

Now we know that A*B must equal -8 ...

Sep 27th 10:16:20 pm

Yes

Sep 27th 10:16:30 pm

26

...and we know that the two w parts must mulitply together to give 5w^2 ...

Sep 27th 10:17:13 pm

27

So lets change our expression a little bit...

Sep 27th 10:17:32 pm

Okay

Sep 27th 10:18:02 pm

28

we want it like (S*w + A)(w + B) ...

Sep 27th 10:18:06 pm

29

So we want S*w*w = 5w^2

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30

What number would S be?

Sep 27th 10:18:58 pm

3?

Sep 27th 10:19:11 pm

31

Nearly, but not quite.

Sep 27th 10:19:29 pm

32

What else can w*w be written?

Sep 27th 10:20:05 pm

33

* means multiply (or times).

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W^2

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34

Exactly so...

Sep 27th 10:20:35 pm

35

S*w^2 = 5*w^2

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36

Now it's easier to see what S equals?

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37

What do you think it is?

Sep 27th 10:21:11 pm

38

Yes exactly!

Sep 27th 10:21:40 pm

39

Now lets put what we've worked out so far in an answer so we don't forget.

Sep 27th 10:22:01 pm

40

We've got...

Sep 27th 10:22:05 pm

41

$15w^2 + 9w - 24 = 3(5w + A)(w + B)$

Sep 27th 10:22:41 pm

42

So we just need to figure out A and B...

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43

So from, $5w^2 + 3w - 8 = (5w + A)(w + B)$

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44

We worked out that $5w * w$ gives us the $5w^2$ part.

Sep 27th 10:24:00 pm

45

...and we can see that the $A * B$ must give us the $- 8$ part...

Sep 27th 10:24:23 pm

46

...and you correctly said that one of A or B must be a minus so that we get a minus 8 ...

Sep 27th 10:24:51 pm

47

So, $A * B = -8$...

Sep 27th 10:25:12 pm

So would it be $3(5w+8)(w-1)$?

Sep 27th 10:25:17 pm

48

Yeah perfect! well done!

Sep 27th 10:25:34 pm

49

The steps that made this one more tricky than normal, were: ...

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50

You had to see that you could divide each number by three first...

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51

...and then realise that you had to put a 5 in front of one of the w's .

Sep 27th 10:26:40 pm

52

Is there another question you need any help with?

Sep 27th 10:26:55 pm

No that's it thank you

Sep 27th 10:27:26 pm

Okay, I'm glad I could help you understand the question. Bye,

Sep 27th 10:27:45 pm

Bye

Sep 27th 10:28:01 pm

Student ended session

Sep 27th 10:28:03 pm