

00:00:07.390 --> 00:00:09.539

Alright, this video is on dividing rational

00:00:09.539 --> 00:00:11.209

expressions as opposed to multiplying.

00:00:11.210 --> 00:00:13.118

But it turns out it's it's

00:00:13.118 --> 00:00:14.390

basically the same thing.

00:00:14.390 --> 00:00:16.434

All we're going to do is the

00:00:16.434 --> 00:00:18.200

one that we're dividing by.

00:00:18.200 --> 00:00:19.790

We're just gonna flip it,

00:00:19.790 --> 00:00:21.698

and then we're going to multiply.

00:00:21.700 --> 00:00:23.608

So anytime you see rational expression

00:00:23.608 --> 00:00:24.880

divided by rational expression,

00:00:24.880 --> 00:00:26.465

we're just going to flip

00:00:26.465 --> 00:00:27.733

this guy and multiply.

00:00:27.740 --> 00:00:31.580

So this is going to be.

00:00:31.580 --> 00:00:32.450

This first one.

00:00:38.560 --> 00:00:40.457

And then times the second one so.

00:00:45.250 --> 00:00:46.756

And then again, what we don't

00:00:46.756 --> 00:00:48.514

want to do is like multiply

00:00:48.514 --> 00:00:50.229

all this stuff out instead.

00:00:50.230 --> 00:00:52.150

What we need to do is factor this

00:00:52.150 --> 00:00:53.825

and factor that and then cancel

00:00:53.825 --> 00:00:55.529

any common factors that we see.

00:00:55.530 --> 00:00:56.855

So you should pause the

00:00:56.855 --> 00:00:57.915

video and factor this.

00:00:59.990 --> 00:01:02.664

Now, assuming you've done that, this top one,

00:01:02.664 --> 00:01:04.692

we just need numbers that multiply

00:01:04.692 --> 00:01:07.284

to positive 3 and add to negative 4.

00:01:07.290 --> 00:01:11.610

So this factor is $X - 3$. Times $X + 1$.

00:01:13.670 --> 00:01:14.960

This is the difference of

00:01:14.960 --> 00:01:16.504

two squares, so this is X ,

00:01:16.504 --> 00:01:19.084

$x^2 - 2$ squared, so this is $x + 2$.

00:01:21.210 --> 00:01:25.074

Times $x - 2$. And then we're just

00:01:25.074 --> 00:01:27.390

multiplying that by $x + 2$.

00:01:30.130 --> 00:01:33.952

Over $x - 3$. And then we just kind of

00:01:33.952 --> 00:01:35.681

have to look through there and say, OK,

00:01:35.681 --> 00:01:37.158

So what are the common factors again,

00:01:37.160 --> 00:01:38.984

when you multiply, it's just like

00:01:38.984 --> 00:01:40.948

things just kind of get kind of.

00:01:40.950 --> 00:01:43.290

Mushed together so.

00:01:43.290 --> 00:01:44.522

Those are common, right?

00:01:44.522 --> 00:01:45.754

And these are common,

00:01:45.760 --> 00:01:48.532

and then we're left with just $X + 1$.

00:01:52.150 --> 00:01:54.306

Over $X - 2$ and that's it.

00:01:54.310 --> 00:01:56.158

So you have a division problem

00:01:56.158 --> 00:01:57.082

with rational expressions.

00:01:57.090 --> 00:01:58.640

You just invert this guy.

00:01:58.640 --> 00:02:01.778

It's the second one you flip.

00:02:01.780 --> 00:02:02.628

And then you multiply.

00:02:05.520 --> 00:02:05.970

That's it.