

00:00:07.480 --> 00:00:08.835
Alright, in this video we're

00:00:08.835 --> 00:00:10.190
going to talk about adding

00:00:10.243 --> 00:00:11.919
fractions and common denominators,

00:00:11.920 --> 00:00:14.419
and I want to add these fractions.

00:00:14.420 --> 00:00:17.220
I want to add $1/3$. And.

00:00:19.720 --> 00:00:20.190
 $2/5$

00:00:24.030 --> 00:00:26.368
So what I'm going to do is.

00:00:26.370 --> 00:00:28.460
I'm going to draw here $1/3$.

00:00:36.160 --> 00:00:39.023
So this is one and just shade

00:00:39.023 --> 00:00:40.860
this bottom third of it.

00:00:40.860 --> 00:00:44.600
And then over here I've got $2/5$.

00:00:49.080 --> 00:00:50.880
So I'm going to put vertical

00:00:50.880 --> 00:00:52.080
stripes in like this.

00:00:57.470 --> 00:00:58.230
Actually two of them.

00:01:02.260 --> 00:01:03.958
So what I can do is,

00:01:03.960 --> 00:01:05.240
you know, like this here.

00:01:05.240 --> 00:01:07.970
The units that I'm measuring things in.

00:01:07.970 --> 00:01:09.874
Our third is right and the units

00:01:09.874 --> 00:01:11.782
here are fifth, and they're not.

00:01:11.782 --> 00:01:14.330
They need a common unit of measurement.

00:01:14.330 --> 00:01:16.978
So what I'm going to do is cut

00:01:16.978 --> 00:01:19.350
this guy vertically in five,

00:01:19.350 --> 00:01:22.514
and I'm gonna end up with like.

00:01:22.520 --> 00:01:22.950
You know?

00:01:26.610 --> 00:01:27.280
5.

00:01:30.650 --> 00:01:33.730
Out of 15, right?

00:01:33.730 --> 00:01:35.067
Yeah I did the right all right.

00:01:35.070 --> 00:01:35.830
I thought I miscounted

00:01:35.830 --> 00:01:36.590
there for a second.

00:01:36.590 --> 00:01:37.900
I'm gonna cut this guy

00:01:37.900 --> 00:01:38.948
horizontally like this so.

00:01:42.050 --> 00:01:43.700
So I've now this one is

00:01:43.700 --> 00:01:47.140
made up of 15 things and.

00:01:47.140 --> 00:01:51.920
I now have right I have 6:15.

00:01:51.920 --> 00:01:54.866
And when I put those things

00:01:54.866 --> 00:01:55.948
together. What I get?

00:01:59.420 --> 00:02:02.157
Is like this. I have these horizontal

00:02:02.157 --> 00:02:03.730
cuts. Have these vertical cuts.

00:02:09.610 --> 00:02:12.250
And let's see, I have these six fifteenths

00:02:12.250 --> 00:02:14.797
that fit in sort of like this like 1.

00:02:17.160 --> 00:02:19.290
2-3 so I can take those three and just put

00:02:19.345 --> 00:02:21.478
up there and these three put it down here.

00:02:25.140 --> 00:02:28.486
Right, and I've got my my 5

00:02:28.486 --> 00:02:29.771
fifteenths. From this one,

00:02:29.771 --> 00:02:31.373
let's just fit right down here.

00:02:38.460 --> 00:02:39.276
And then I can count those

00:02:39.276 --> 00:02:40.100
up and I can say OK,

00:02:40.100 --> 00:02:44.159
there's 6 + 5 is 11, so this is.

00:02:44.160 --> 00:02:47.336
11 15 so. Of course,

00:02:47.336 --> 00:02:48.698
we don't want to be drawing like

00:02:48.698 --> 00:02:50.168
pictures every time that we do this,

00:02:50.170 --> 00:02:52.326
but this is really what's happening here.

00:02:52.330 --> 00:02:54.388
So what I want to do is.

00:02:54.390 --> 00:02:56.206
I want to think OK so my $1/3$.

00:02:58.550 --> 00:03:00.587
And my my $\frac{2}{5}$ they need a

00:03:00.587 --> 00:03:02.410
common unit of measurement.

00:03:02.410 --> 00:03:04.366
They need a common denominator here,

00:03:04.370 --> 00:03:07.466
which is going to be for us 15 and.

00:03:07.466 --> 00:03:10.246
So I'm going to multiply.

00:03:10.250 --> 00:03:13.697
The bottom by 5. And the top by 5.

00:03:17.130 --> 00:03:18.380
That's really amounts to just

00:03:18.380 --> 00:03:19.906
multiplying that fraction by 1, right?

00:03:19.906 --> 00:03:21.530
Doesn't really change it, and this.

00:03:21.530 --> 00:03:22.830
This also amounts to putting

00:03:22.830 --> 00:03:24.130
in these vertical cuts here,

00:03:24.130 --> 00:03:28.088
so it changes my my $\frac{1}{3}$. Into 5.

00:03:28.088 --> 00:03:30.181
15th right so now I have instead

00:03:30.181 --> 00:03:32.733
of just the bottom row I have the

00:03:32.733 --> 00:03:34.860
bottom row but cut into 5 bits.

00:03:34.860 --> 00:03:38.620
And then over here I've got $\frac{2}{5}$.

00:03:38.620 --> 00:03:42.150
I'm gonna multiply that by $\frac{3}{3}$.

00:03:42.150 --> 00:03:44.250
That amounts putting these horizontal cuts.

00:03:44.250 --> 00:03:46.861
My two, you know my two vertical

00:03:46.861 --> 00:03:49.501
stripes become six of these 15th,

00:03:49.501 --> 00:03:52.543
so I get here 6 fifteenths.

00:03:52.550 --> 00:03:55.840
And then I just add him and it gives me.

00:03:55.840 --> 00:03:57.534
The 11:15 set I've got up there.

00:03:57.540 --> 00:04:00.179
So when I want to add fractions,

00:04:00.180 --> 00:04:02.612
they need to have a common unit of

00:04:02.612 --> 00:04:05.260
measurement, common denominator.

00:04:05.260 --> 00:04:07.726
I make that common denominator essentially

00:04:07.726 --> 00:04:09.839
by multiplying the fraction by one,

00:04:09.840 --> 00:04:11.508
so I like here I just.

00:04:11.510 --> 00:04:11.914
You know,

00:04:11.914 --> 00:04:13.328
I wanna 5 down here with the

00:04:13.328 --> 00:04:14.843
three 'cause this guy's got a 5

00:04:14.843 --> 00:04:16.345
so I just introduced that five by

00:04:16.345 --> 00:04:18.192
multiplying by 5 / 5 and here this

00:04:18.192 --> 00:04:20.320
guy is sort of missing a 3 right?

00:04:20.320 --> 00:04:22.472
I wish it were 15th so I'm going

00:04:22.472 --> 00:04:24.310
to multiply by 3 / 3 and that

00:04:24.310 --> 00:04:25.470
doesn't change the value.

00:04:25.470 --> 00:04:27.396
It just changes sort of the the

00:04:27.396 --> 00:04:28.576
way it's represented and then

00:04:28.576 --> 00:04:29.979
it just add across the tops.

00:04:29.980 --> 00:04:31.604
I don't add the bottom just add right

00:04:31.604 --> 00:04:33.287
across the tops that's adding fractions.