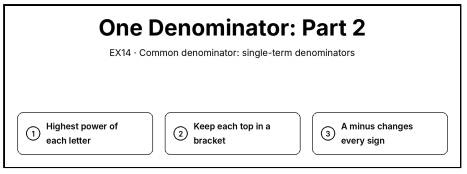
One Denominator: Part 2: teacher script

EX14-V2 · EX14 Common denominator: single-term denominators · teachers only. Without a screen, read each Say line and draw each Draw step on the board. About 95 seconds as a video.

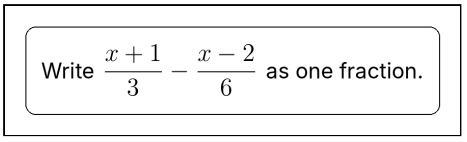
01



Say. One denominator, part two. For letters, take the highest power. Keep each top in a bracket, and remember that a minus in front changes every sign in it.

Draw. Write the title “One Denominator: Part 2” and the steps: 1. Highest power of each letter; 2. Keep each top in a bracket; 3. A minus changes every sign.

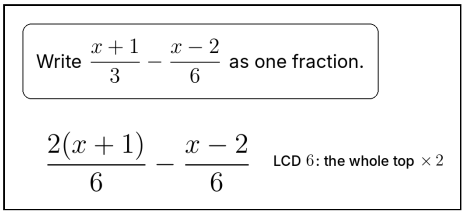
02



Say. Write x + 1 over three, minus x − 2 over six, as one fraction.

Draw. Clear the board. Write “Write (x + 1)/3 − (x − 2)/6 as one fraction.” in a box at the top.

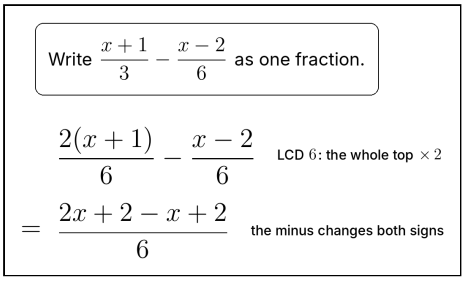
03



Say. The lowest common denominator is six. The whole of the first top is multiplied by two: two times the bracket x + 1.

Draw. Write (2(x + 1))/6 − (x − 2)/6 on the next line. Beside it, write “LCD 6: the whole top × 2”.

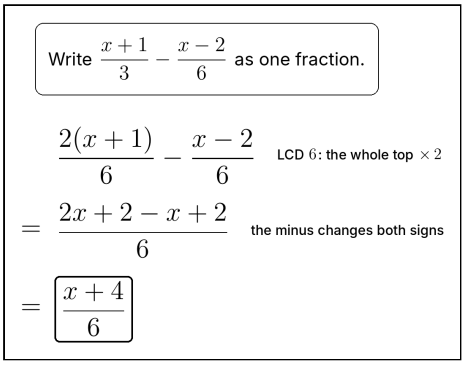
04



Say. Now take away the second top. The minus changes both of its signs: minus x, plus two.

Draw. Write = (2x + 2 − x + 2)/6 on the next line. Beside it, write “the minus changes both signs”.

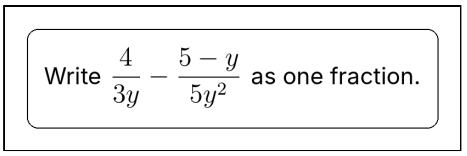
05



Say. Combine: x plus four, over six.

Draw. Write = (x + 4)/6 and box it on the next line.

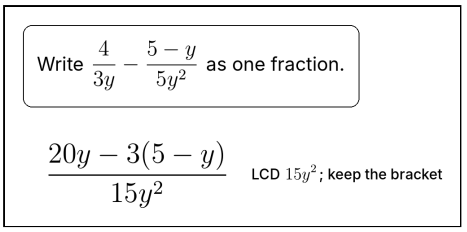
06



Say. Now four over three y, minus the fraction 5 − y over five y².

Draw. Clear the board. Write “Write 4/(3y) − (5 − y)/(5y²) as one fraction.” in a box at the top.

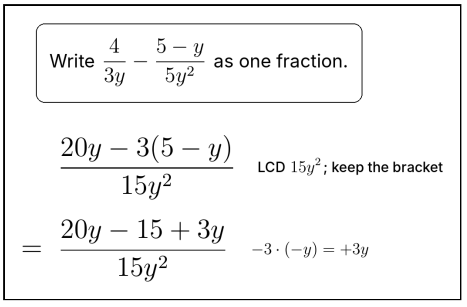
07



Say. Three and five give fifteen, and the highest power of y is y². Rescale both tops, and keep the bracket: twenty y, minus three times the bracket 5 − y.

Draw. Write (20y − 3(5 − y))/(15y²) on the next line. Beside it, write “LCD 15y²; keep the bracket”.

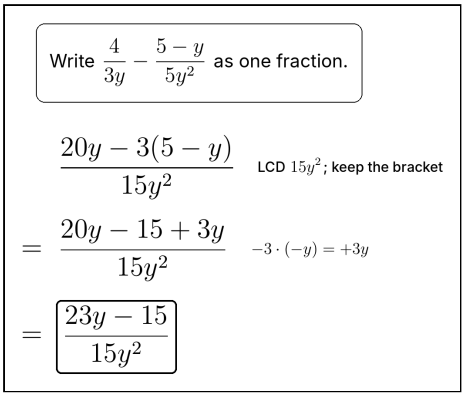
08



Say. Minus three times negative y is plus three y.

Draw. Write = (20y − 15 + 3y)/(15y²) on the next line. Beside it, write “−3 · (−y) = +3y”.

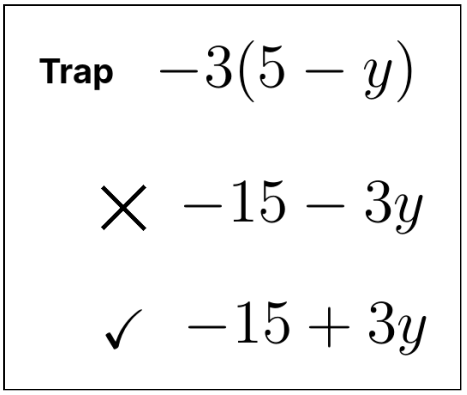
09



Say. So it is twenty-three y minus fifteen, over fifteen y².

Draw. Write = (23y − 15)/(15y²) and box it on the next line.

10



Say. Watch for the trap: losing the bracket. Minus three times the bracket 5 − y is not negative fifteen minus three y. The minus changes every sign: negative fifteen plus three y.

Draw. Clear the board. Write “Trap” and −3(5 − y). Below, write −15 − 3y and cross it out ×. Then write −15 + 3y with a tick ✓.

11

Trap $\dfrac{1}{x} + \dfrac{2}{x^2}$

$\times$ $\dfrac{x^2 + 2x}{x^3}$ equal, but not finished

$\checkmark$ $\dfrac{x + 2}{x^2}$

Say. And use the lowest denominator. Over x^3 you get an answer that still shares x on the top and the bottom. Over x^2 it is finished: x plus two, over x^2.

Draw. Clear the board. Write “Trap” and $1/x + 2/x^2$. Below, write $(x^2 + 2x)/x^3$ and cross it out ×. Then write $(x + 2)/x^2$ with a tick ✓.

12

Your turn

Keep each top in a bracket,
and change every sign after a minus

Say. Now it is your turn. Keep each top in a bracket, and change every sign after a minus.

Draw. Point to today’s activity: Keep each top in a bracket, and change every sign after a minus