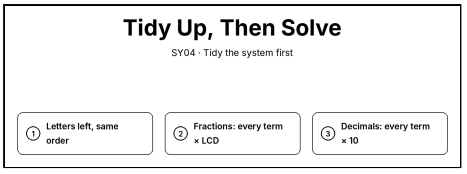
Tidy Up, Then Solve: teacher script

SY04-V1 · SY04 Tidy the system first · teachers only. Without a screen, read each Say line and draw each Draw step on the board. About 74 seconds as a video.

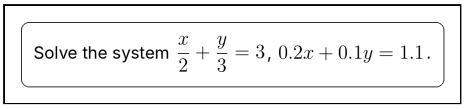
01



Say. Tidy up, then solve. Letters on the left, in the same order, and numbers on the right. Clear fractions by multiplying every term by the L C D, and clear decimals the same way, by ten or a hundred.

Draw. Write the title “Tidy Up, Then Solve” and the steps: 1. Letters left, same order; 2. Fractions: every term × LCD; 3. Decimals: every term × 10.

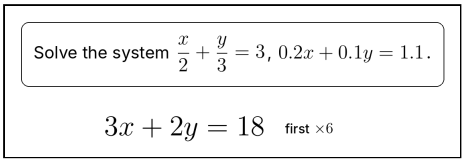
02



Say. Solve the system x/2 + y/3 = 3 and 0.2x + 0.1y = 1.1.

Draw. Clear the board. Write “Solve the system x/2 + y/3 = 3, 0.2x + 0.1y = 1.1.” in a box at the top.

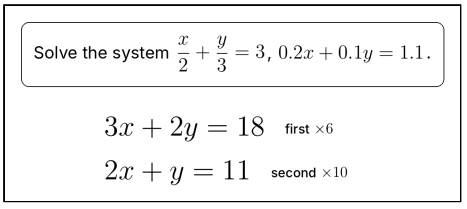
03



Say. Times six, every term: 3x + 2y = 18.

Draw. Write 3x + 2y = 18 on the next line. Beside it, write “first × 6”.

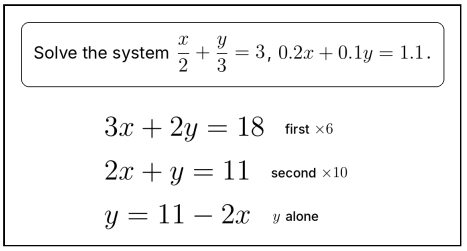
04



Say. Times ten, every term: 2x + y = 11.

Draw. Write 2x + y = 11 on the next line. Beside it, write “second × 10”.

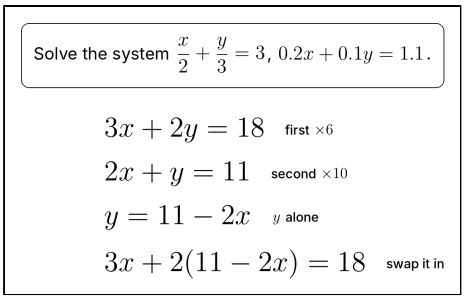
05



Say. Now it is a tidy system. Get y alone: y = 11 − 2x.

Draw. Write y = 11 − 2x on the next line. Beside it, write “y alone”.

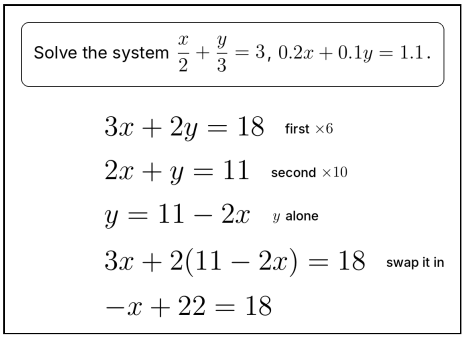
06



Say. Swap it in, in brackets.

Draw. Write 3x + 2(11 − 2x) = 18 on the next line. Beside it, write “swap it in”.

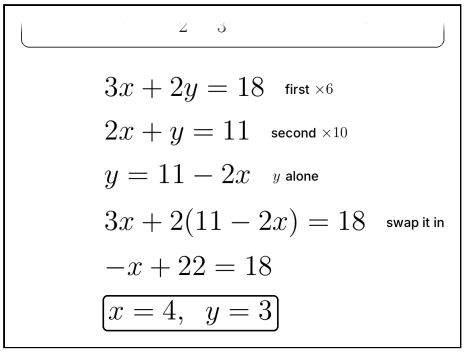
07



Say. That is −x + 22 = 18.

Draw. Write −x + 22 = 18 on the next line.

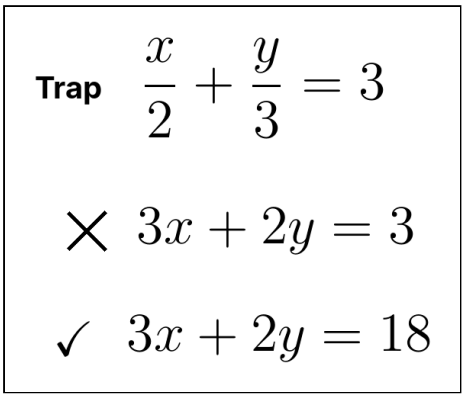
08



Say. So x = 4, and y = 11 − 8 = 3. The solution is four, three.

Draw. Write x = 4, y = 3 and box it on the next line.

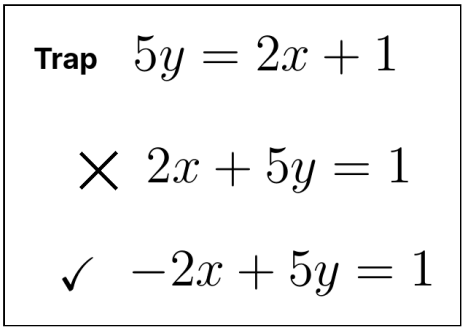
09



Say. Watch for the trap: multiplying only the fractions. Every term gets multiplied, the three on the right too.

Draw. Clear the board. Write “Trap” and x/2 + y/3 = 3. Below, write 3x + 2y = 3 and cross it out ×. Then write 3x + 2y = 18 with a tick ✓.

10



Say. And watch for keeping the sign when a term moves. Two x moves to the left, so it changes sign.

Draw. Clear the board. Write “Trap” and 5y = 2x + 1. Below, write 2x + 5y = 1 and cross it out ×. Then write −2x + 5y = 1 with a tick ✓.

11

Your turn

Line up the letters, clear fractions and decimals, then solve

Say. Now it is your turn. Line up the letters, clear the fractions and decimals, then solve.

Draw. Point to today’s activity: Line up the letters, clear fractions and decimals, then solve