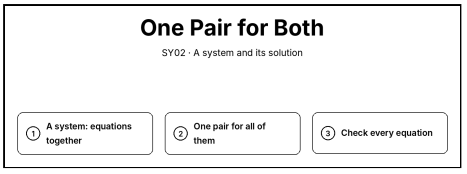
One Pair for Both: teacher script

SY02-V1 · SY02 A system and its solution · teachers only. Without a screen, read each Say line and draw each Draw step on the board. About 66 seconds as a video.

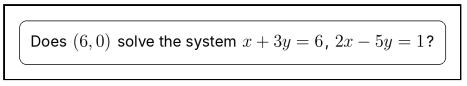
01



Say. One pair for both. A system is two or more equations together. Its solution is one pair for all of them, so check a pair in every equation.

Draw. Write the title “One Pair for Both” and the steps: 1. A system: equations together; 2. One pair for all of them; 3. Check every equation.

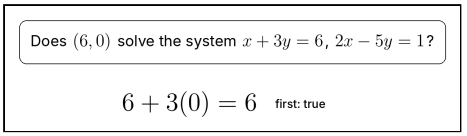
02



Say. Does six, zero solve the system x + 3y = 6 and 2x − 5y = 1?

Draw. Clear the board. Write “Does (6, 0) solve the system x + 3y = 6, 2x − 5y = 1?” in a box at the top.

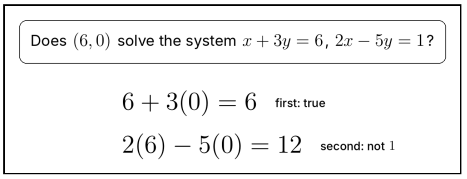
03



Say. In the first equation: six plus three times zero is six. True.

Draw. Write 6 + 3(0) = 6 on the next line. Beside it, write “first: true”.

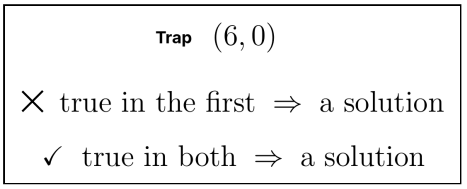
04



Say. In the second: two times six minus five times zero is twelve, not one. False.

Draw. Write 2(6) − 5(0) = 12 on the next line. Beside it, write “second: not 1”.

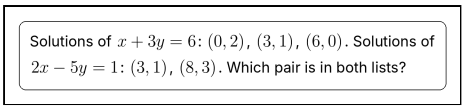
05



Say. Watch for the trap: checking one equation only. Six, zero fits the first equation but not the second. A solution of the system must be true in both.

Draw. Clear the board. Write “Trap” and (6, 0). Below, write true in the first \Rightarrow a solution and cross it out ×. Then write true in both \Rightarrow a solution with a tick ✓.

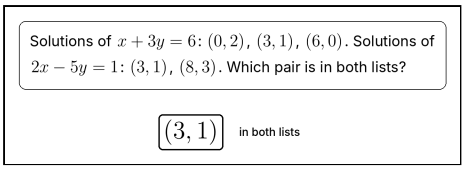
06



Say. Here are some solutions of each equation. Which pair is in both lists?

Draw. Clear the board. Write “Solutions of x + 3y = 6: (0, 2), (3, 1), (6, 0). Solutions of 2x − 5y = 1: (3, 1), (8, 3). Which pair is in both lists?” in a box at the top.

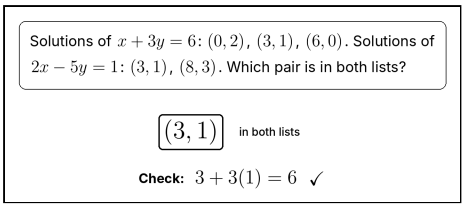
07



Say. Three, one is in both lists.

Draw. Write (3, 1) and box it on the next line. Beside it, write “in both lists”.

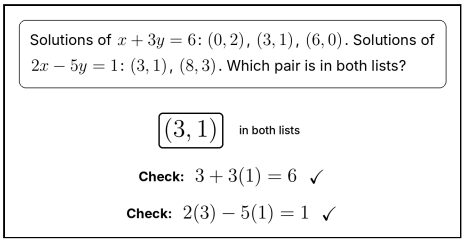
08



Say. Check it. In the first equation, three plus three is six.

Draw. Below, write “Check: 3 + 3(1) = 6” and tick it ✓.

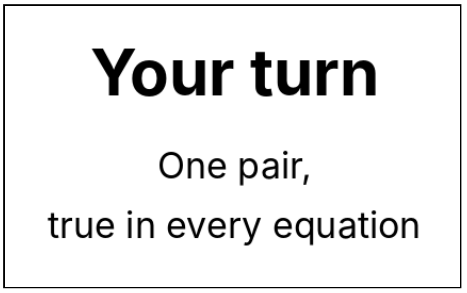
09



Say. In the second, six minus five is one. True in both: three, one solves the system.

Draw. Below, write “Check: 2(3) − 5(1) = 1” and tick it ✓.

10



Say. Now it is your turn. The solution of a system is one pair, true in every equation.

Draw. Point to today’s activity: One pair, true in every equation