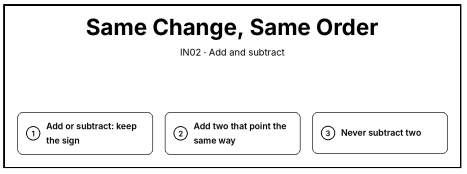
Same Change, Same Order: teacher script

IN02-V1 · IN02 Add and subtract · teachers only. Without a screen, read each Say line and draw each Draw step on the board. About 76 seconds as a video.

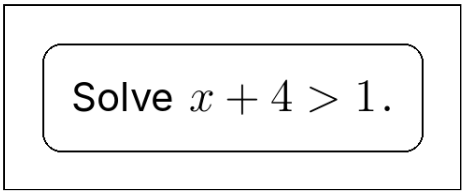
01



Say. Adding and subtracting. Add or subtract the same number on both sides, and keep the sign. You can add two inequalities that point the same way. But never subtract two inequalities.

Draw. Write the title “Same Change, Same Order” and the steps: 1. Add or subtract: keep the sign; 2. Add two that point the same way; 3. Never subtract two.

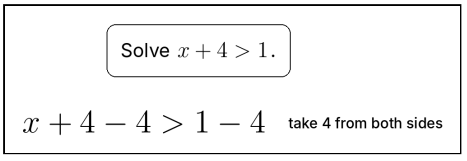
02



Say. Solve x plus 4 is greater than 1.

Draw. Clear the board. Write “Solve x + 4 > 1.” in a box at the top.

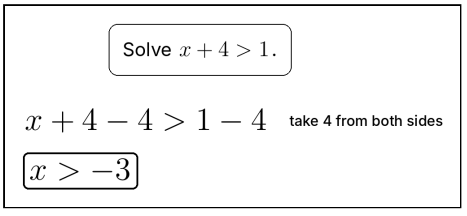
03



Say. Take 4 from both sides. Both sides move down by the same amount, so the order stays the same.

Draw. Write x + 4 − 4 > 1 − 4 on the next line. Beside it, write “take 4 from both sides”.

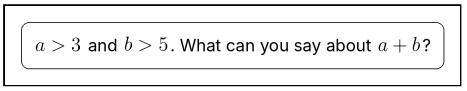
04



Say. So x is greater than negative 3. The answer is negative, but the sign did not flip: subtracting never flips it.

Draw. Write x > −3 and box it on the next line.

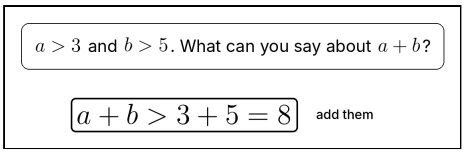
05



Say. a is greater than 3, and b is greater than 5. What can you say about a plus b?

Draw. Clear the board. Write “a > 3 and b > 5. What can you say about a + b?” in a box at the top.

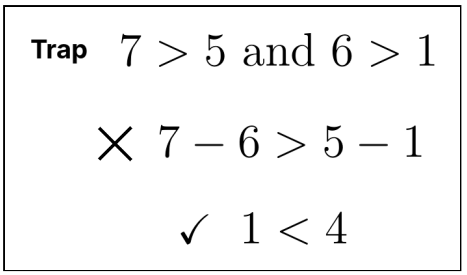
06



Say. Add them: they point the same way, so a plus b is greater than 3 plus 5, which is 8.

Draw. Write a + b > 3 + 5 = 8 and box it on the next line. Beside it, write “add them”.

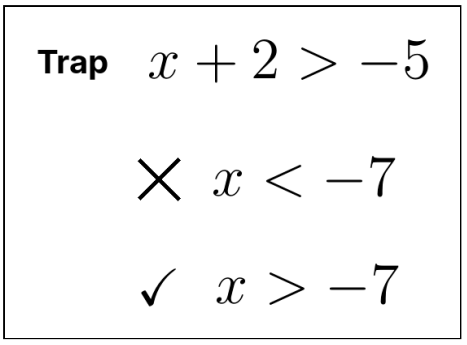
07



Say. Watch for the trap: you can't subtract them. 7 is greater than 5, and 6 is greater than 1. But 7 minus 6 is 1, 5 minus 1 is 4, and 1 is less than 4.

Draw. Clear the board. Write “Trap” and 7 > 5 and 6 > 1. Below, write 7 − 6 > 5 − 1 and cross it out ×. Then write 1 < 4 with a tick ✓.

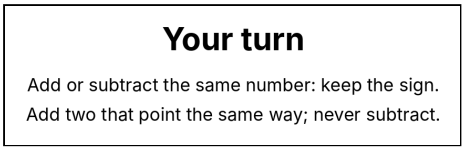
08



Say. Another trap: a negative number on the right doesn't flip anything. Take 2 from both sides and keep the sign: x is greater than negative 7.

Draw. Clear the board. Write “Trap” and x + 2 > −5. Below, write x < −7 and cross it out ×. Then write x > −7 with a tick ✓.

09



Say. Now it is your turn. Add or subtract the same number, and keep the sign. Add two inequalities that point the same way, but never subtract them.

Draw. Point to today’s activity: Add or subtract the same number: keep the sign. Add two that point the same way; never subtract.