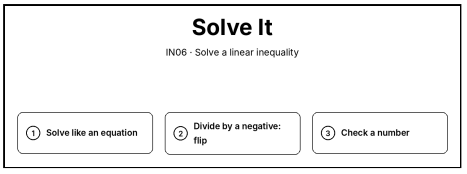
Solve It: teacher script

IN06-V1 · IN06 Solve a linear inequality · teachers only. Without a screen, read each Say line and draw each Draw step on the board. About 81 seconds as a video.

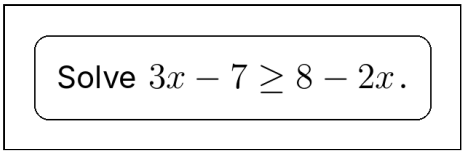
01



Say. Solving inequalities. Solve them like an equation. When you multiply or divide by a negative number, flip the sign. Then check with a number.

Draw. Write the title “Solve It” and the steps: 1. Solve like an equation; 2. Divide by a negative: flip; 3. Check a number.

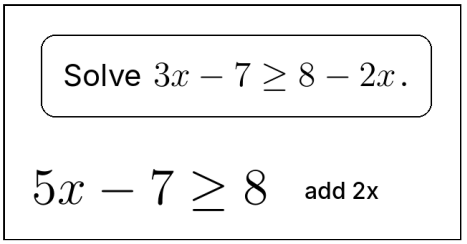
02



Say. Solve 3 x minus 7 is greater than or equal to 8 minus 2 x.

Draw. Clear the board. Write “Solve 3x − 7 \ge 8 − 2x.” in a box at the top.

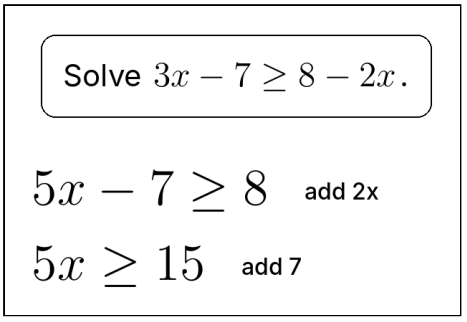
03



Say. Add 2 x to both sides: 5 x minus 7 is at least 8.

Draw. Write 5x − 7 \ge 8 on the next line. Beside it, write “add 2x”.

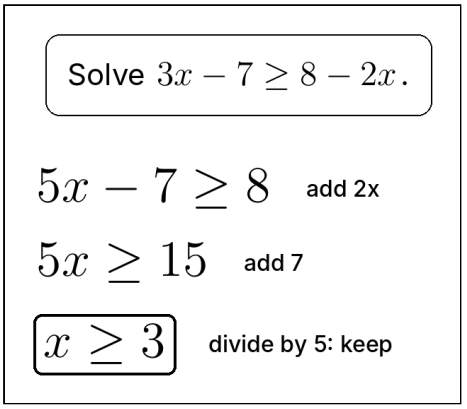
04



Say. Add 7: 5 x is at least 15.

Draw. Write 5x \ge 15 on the next line. Beside it, write “add 7”.

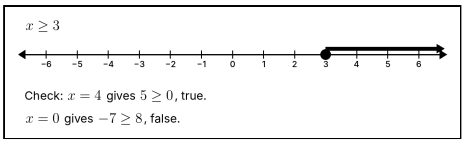
05



Say. Divide by 5, a positive number, so keep the sign: x is greater than or equal to 3.

Draw. Write x \ge 3 and box it on the next line. Beside it, write “divide by 5: keep”.

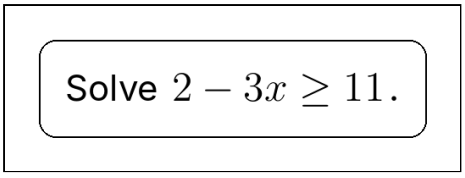
06



Say. On the number line: a closed circle at 3, and shade to the right. Check with a number inside, 4: 5 is at least 0, true. And one outside, 0: negative 7 is at least 8, false.

Draw. Clear the board. Draw a number line from -6 to 6 and write “x \ge 3” above it. Draw a closed circle at 3 and shade to the right, with an arrow. Below, write “Check: x = 4 gives 5 \ge 0, true.”. Below, write “x = 0 gives −7 \ge 8, false.”.

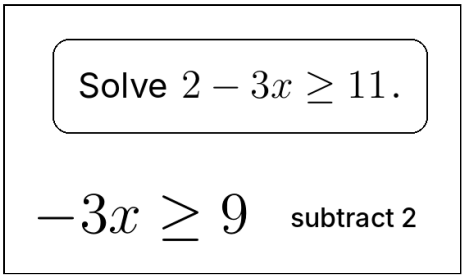
07



Say. Solve 2 minus 3 x is greater than or equal to 11.

Draw. Clear the board. Write “Solve 2 − 3x \ge 11.” in a box at the top.

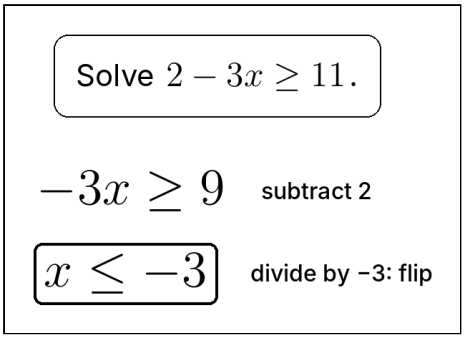
08



Say. Subtract 2 from both sides: negative 3 x is at least 9.

Draw. Write −3x \ge 9 on the next line. Beside it, write “subtract 2”.

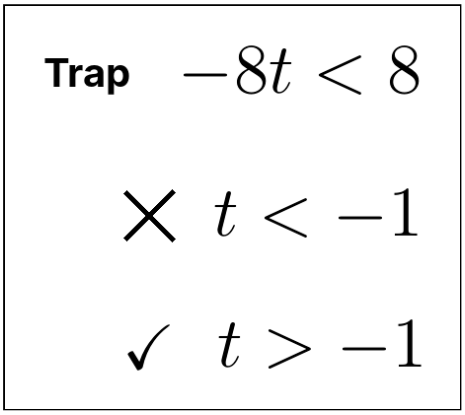
09



Say. Divide by negative 3, and flip the sign: x is less than or equal to negative 3.

Draw. Write x \le −3 and box it on the next line. Beside it, write “divide by −3: flip”.

10



Say. Watch for the trap: don't forget to flip. Negative 8 t is less than 8, and dividing by negative 8 gives t is greater than negative 1.

Draw. Clear the board. Write “Trap” and −8t < 8. Below, write t < −1 and cross it out ×. Then write t > −1 with a tick ✓.

11

Your turn

Solve like an equation.

Multiply or divide by a negative: flip.

Say. Now it is your turn. Solve like an equation, and flip the sign when you multiply or divide by a negative number.

Draw. Point to today’s activity: Solve like an equation. Multiply or divide by a negative: flip.