Take Away Every Term: teacher script

EX09-V1 · EX09 Subtract an expression · teachers only. Without a screen, read each Say line and draw each Draw step on the board. About 98 seconds as a video.

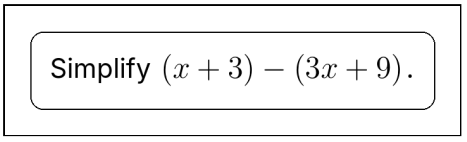
01



Say. Take away every term. Subtracting a bracket is multiplying it by negative one, so every sign inside it changes. Then combine like terms.

Draw. Write the title “Take Away Every Term” and the steps: 1. Minus a bracket: times -1; 2. Every sign inside changes; 3. Then combine like terms.

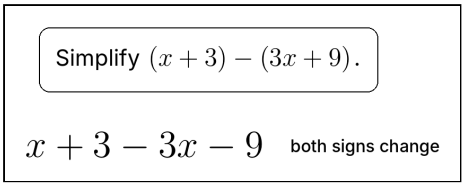
02



Say. Simplify: the bracket x + 3, take away the bracket 3x + 9.

Draw. Clear the board. Write “Simplify (x + 3) − (3x + 9).” in a box at the top.

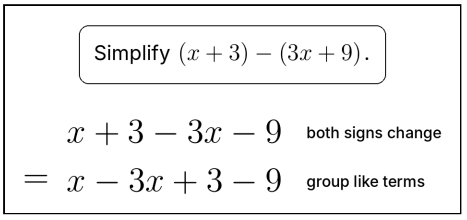
03



Say. Take the brackets away. The second bracket is subtracted, so both of its terms change sign: minus three x, minus nine.

Draw. Write x + 3 − 3x − 9 on the next line. Beside it, write “both signs change”.

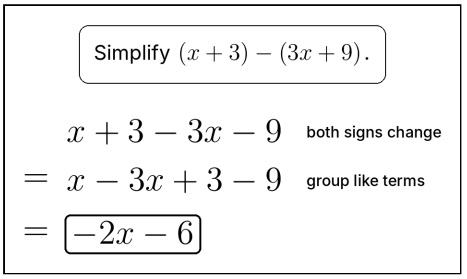
04



Say. Group the like terms.

Draw. Write = x − 3x + 3 − 9 on the next line. Beside it, write “group like terms”.

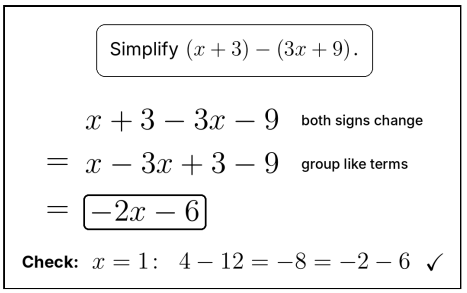
05



Say. One x take away three x is negative two x, and three take away nine is negative six: −2x − 6.

Draw. Write = −2x − 6 and box it on the next line.

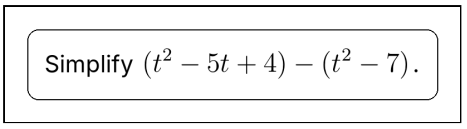
06



Say. Check with x = 1: four take away twelve is −8, and negative two minus six is −8 too.

Draw. Below, write “Check: x = 1: 4 − 12 = −8 = −2 − 6” and tick it ✓.

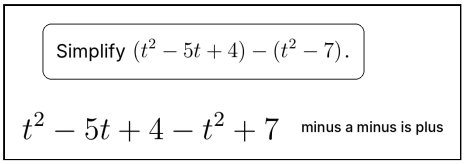
07



Say. Now take t² − 7 away from t² − 5t + 4.

Draw. Clear the board. Write “Simplify (t² − 5t + 4) − (t² − 7).” in a box at the top.

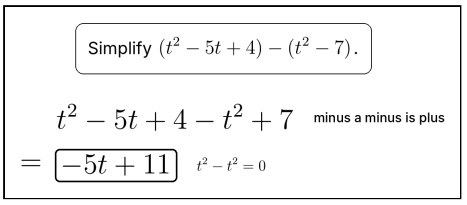
08



Say. Every sign in the second bracket changes: minus t², and minus negative seven is plus seven.

Draw. Write t² − 5t + 4 − t² + 7 on the next line. Beside it, write “minus a minus is plus”.

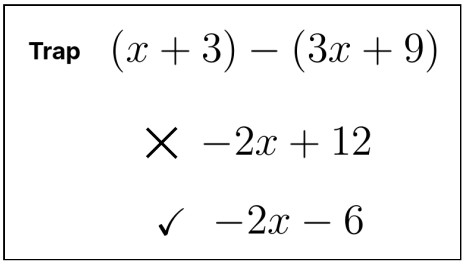
09



Say. The t² terms cancel, and four plus seven is eleven: −5t + 11.

Draw. Write = −5t + 11 and box it on the next line. Beside it, write “t² − t² = 0”.

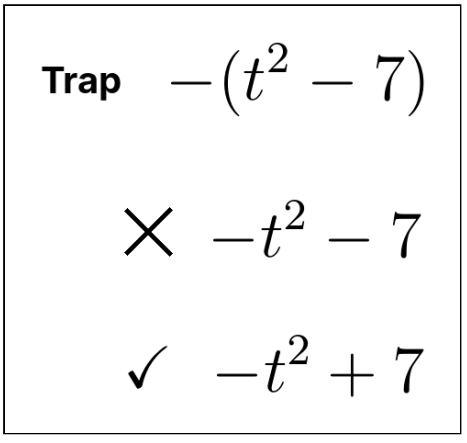
10



Say. Watch for the trap: taking away only the first term. The answer is not −2x + 12. The nine is subtracted too: −2x − 6.

Draw. Clear the board. Write “Trap” and (x + 3) − (3x + 9). Below, write −2x + 12 and cross it out ×. Then write −2x − 6 with a tick ✓.

11



Say. And minus a minus is plus. Taking away the bracket t² − 7 is not −t² − 7. Taking away negative seven adds seven: −t² + 7.

Draw. Clear the board. Write “Trap” and −(t² − 7). Below, write −t² − 7 and cross it out ×. Then write −t² + 7 with a tick ✓.

12

Your turn

Change every sign in the bracket, then combine like terms

Say. Now it is your turn. Change every sign in the bracket you take away, then combine like terms.

Draw. Point to today’s activity: Change every sign in the bracket, then combine like terms