Letter by Letter: teacher script

MV04-V1 · MV04 Multiply monomials with several letters · teachers only. Without a screen, read each Say line and draw each Draw step on the board. About 62 seconds as a video.

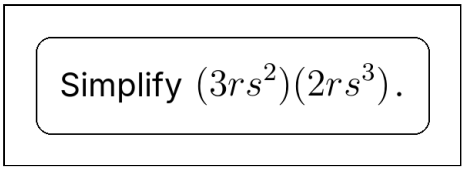
01



Say. Letter by letter. Multiply the numbers together, then each letter on its own. A power raises every factor.

Draw. Write the title “Letter by Letter” and the steps: 1. Numbers together; 2. Each letter on its own; 3. A power raises every factor.

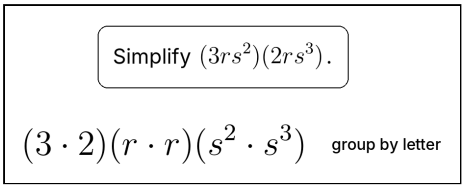
02



Say. Simplify (3rs²)(2rs³).

Draw. Clear the board. Write “Simplify (3rs²)(2rs³).” in a box at the top.

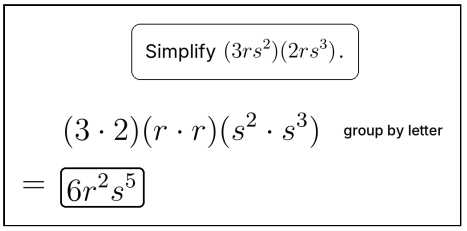
03



Say. Group the numbers, the r's and the s's.

Draw. Write (3 · 2)(r · r)(s² · s³) on the next line. Beside it, write “group by letter”.

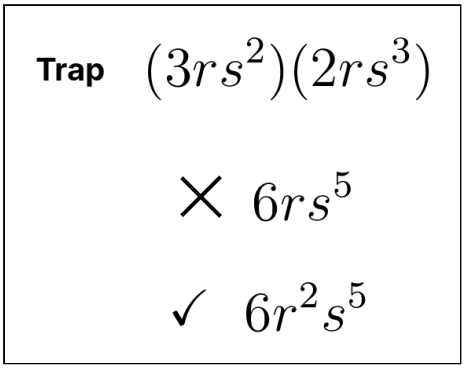
04



Say. Three times two is six. Two r's make r². And s² times s³ is s⁵.

Draw. Write = 6r²s⁵ and box it on the next line.

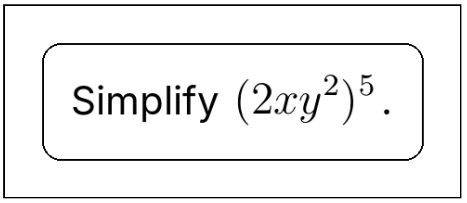
05



Say. Watch for the trap: losing a letter without an exponent. Count each r: there are two.

Draw. Clear the board. Write “Trap” and (3rs²)(2rs³). Below, write 6rs⁵ and cross it out ×. Then write 6r²s⁵ with a tick ✓.

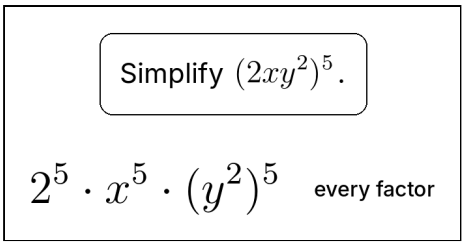
06



Say. Now simplify (2xy²)⁵.

Draw. Clear the board. Write “Simplify (2xy²)⁵.” in a box at the top.

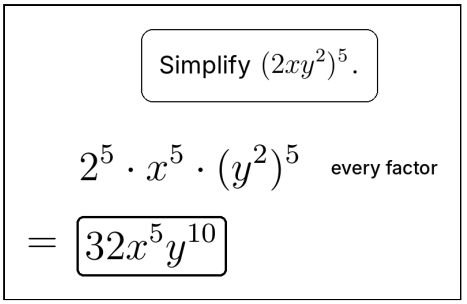
07



Say. Raise every factor to the fifth power: the two, the x and the y^2.

Draw. Write $2^5 \cdot x^5 \cdot (y^2)^5$ on the next line. Beside it, write “every factor”.

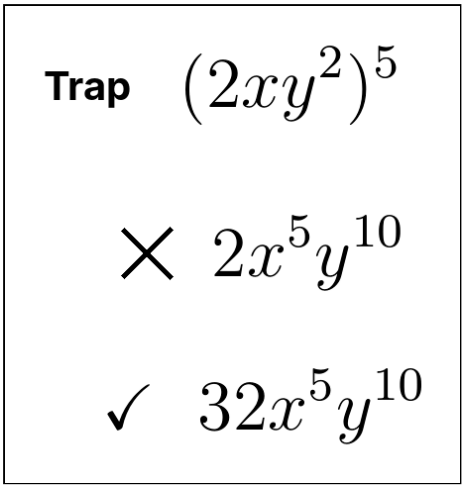
08



Say. Two to the fifth is 32, and y^2 to the fifth is y^{10}.

Draw. Write = $32x^5y^{10}$ and box it on the next line.

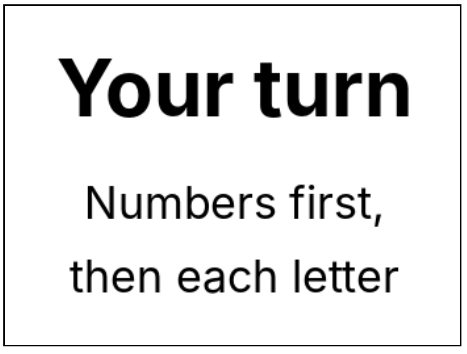
09



Say. Watch for the trap: raising only the letters. The power raises every factor, the number too.

Draw. Clear the board. Write “Trap” and $(2xy^2)^5$. Below, write $2x^5y^{10}$ and cross it out ×. Then write $32x^5y^{10}$ with a tick ✓.

10



Say. Now it is your turn. Numbers first, then each letter.

Draw. Point to today’s activity: Numbers first, then each letter