Letter by Letter

MV04-V1 · storyboard · MV04 Multiply monomials with several letters. Read each picture with its sentences.

Picture 1

Simplify $(3rs^2)(2rs^3)$.

$$(3 \cdot 2)(r \cdot r)(s^2 \cdot s^3)$$ group by letter

$$= \boxed{6r^2s^5}$$

1. Simplify (3rs²)(2rs³).
2. Group the numbers, the r's and the s's.
3. Three times two is six.
4. Two r's make r².
5. And s² times s³ is s⁵.

Picture 2

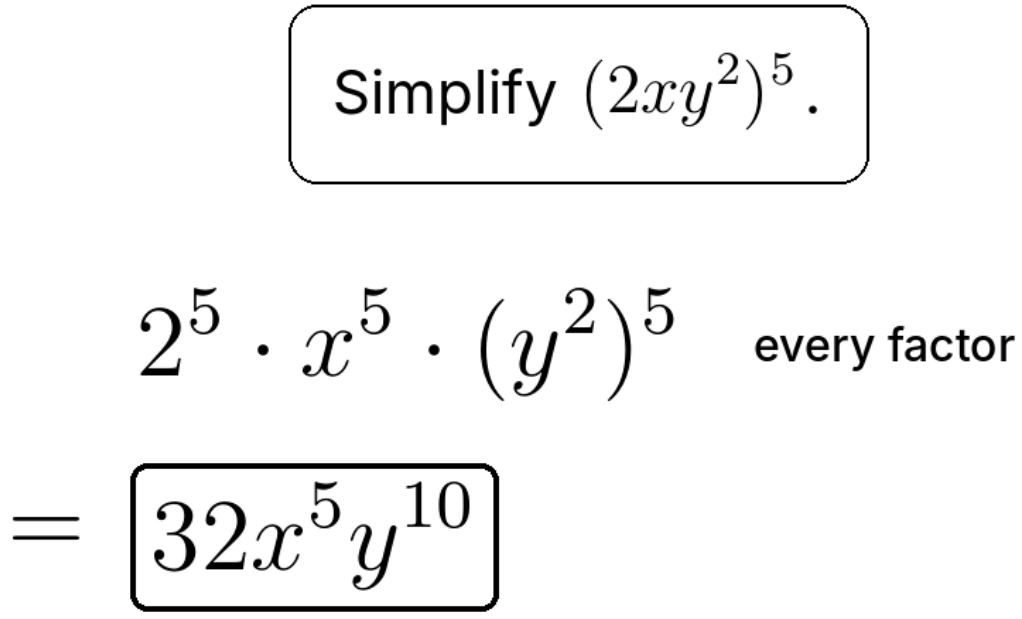
Trap $(3rs^2)(2rs^3)$

✗ $6rs^5$

✓ $6r^2s^5$

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

Picture 3



8. Now simplify $(2xy^2)^5$.
9. Raise every factor to the fifth power: the two, the x and the y^2.
10. Two to the fifth is 32, and y^2 to the fifth is y^{10}.

Picture 4

Trap $(2xy^2)^5$

$\times\ 2x^5y^{10}$

✓ $32x^5y^{10}$

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