

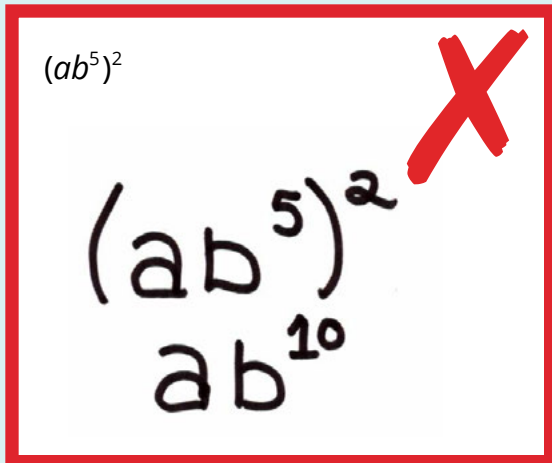
Name: _____ Date: _____

Teacher: _____ Section: _____

For each set, first examine the problem on the left and answer the question(s) about it. Then complete the similar problem on the right.

SET 1: Write the following expressions in **simplest form**. SHOW ALL OF YOUR WORK.

Min **didn't** simplify this expression correctly.
Here is her work:



$(ab^5)^2$

$(ab^5)^2$

ab^{10}

- Min used the correct exponent for b , so why is her final expression wrong?

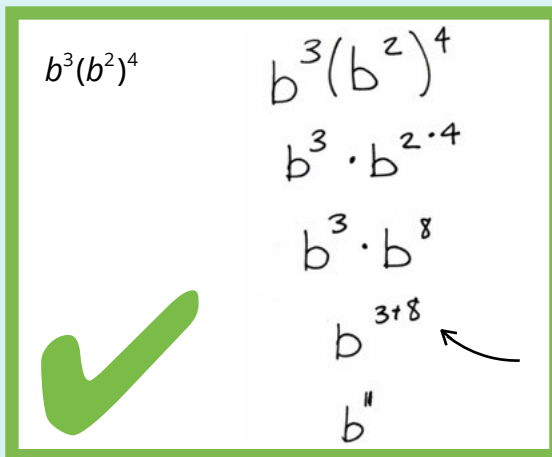


Your Turn:

$(cj^3)^5$

SET 2: Write the following expressions in **simplest form**. SHOW ALL OF YOUR WORK.

Liz simplified this expression **correctly**.
Here is her work:



$b^3(b^2)^4$

$b^3(b^2)^4$

$b^3 \cdot b^{2 \cdot 4}$

$b^3 \cdot b^8$

b^{3+8}

b^{11}

- In the step marked with an arrow, why did Liz add instead of multiply?

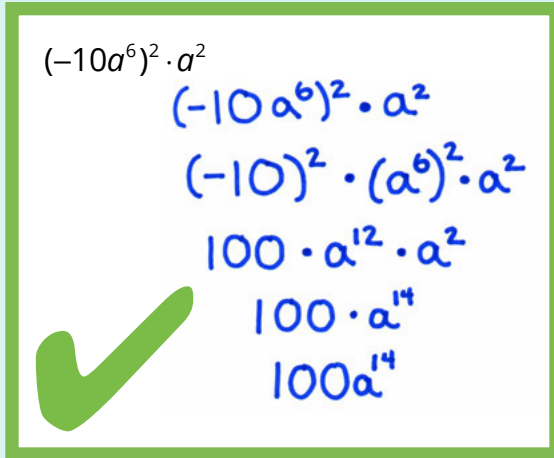


Your Turn:

$(r^5)^2 r^3$

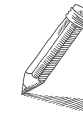
SET 3: Write the following expressions in **simplest form**. SHOW ALL OF YOUR WORK.

Jamal simplified this expression **correctly**.
 Here is his work:



$$\begin{aligned}
 &(-10a^6)^2 \cdot a^2 \\
 &(-10a^6)^2 \cdot a^2 \\
 &(-10)^2 \cdot (a^6)^2 \cdot a^2 \\
 &100 \cdot a^{12} \cdot a^2 \\
 &100 \cdot a^{14} \\
 &100a^{14}
 \end{aligned}$$

- Does Jamal really need parentheses for $(-10)^2$? Why or why not?
- Why does $(a^6)^2 = a^{12}$, while $a^{12}a^2 = a^{14}$? (Why do you multiply exponents in one case and add exponents in the other?)

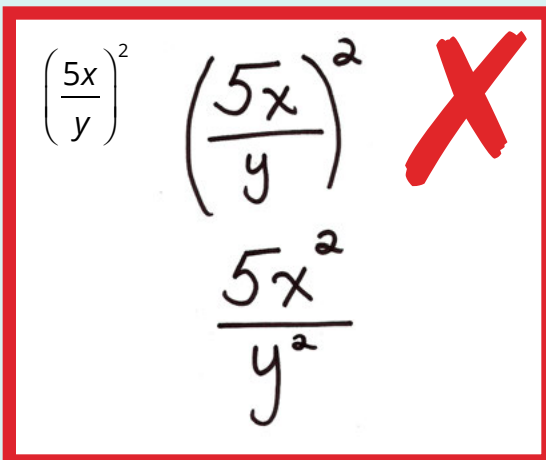


Your Turn:

$$(-2b^2)^2 \cdot b^4$$

SET 4: Write the following expressions in **simplest form**. SHOW ALL OF YOUR WORK.

James **didn't** simplify this expression correctly.
 Here is his work:



$$\begin{aligned}
 &\left(\frac{5x}{y}\right)^2 \\
 &\left(\frac{5x}{y}\right)^2 \\
 &\frac{5x^2}{y^2}
 \end{aligned}$$

- There is something wrong with the 5 in James' answer. What should there be instead?



Your Turn:

$$\left(\frac{3a}{b}\right)^4$$