Name _____ Date _____

Laws of Exponents: Product, Quotient and Power Rules

Directions: Answer each question. Type number answers with digits, and use a minus sign for a negative answer.

1. $3^4 \times 3^5 = 3^n$. What is n?

_____

2. $(5^2)^3 = 5^n$. What is n?

_____

3. Find the value of $2^7 \div 2^4$.

_____

4. Find the value of $(-8)^0 + 3^2$.

_____

5. Which is equal to $4^3 \times 4^{-5}$?

A. 4^{-15} B. 16 C. 1/16 D. -16

6. Which expressions are equal to 2^6? Select the 3 that apply.

☐ A. $(2^2)^4$ ☐ B. $(2^3)^2$ ☐ C. $2^9 \div 2^3$

☐ D. $2^2 \times 2^4$ ☐ E. $2^{12} \div 2^2$ ☐ F. $2^3 + 2^3$

7. Find the value of $(-2)^3 \times (-2)^2$.

_____

8. Ines simplified $6^4 \times 6^{-2} \div 6^5$. Her work is shown.

1. $6^4 \times 6^{-2} = 6^2$
2. $6^2 \div 6^5 = 6^3$
3. $6^3 = 216$

Which step has the first mistake?

A. $6^3 = 216$ B. There is no mistake.

C. $6^4 \times 6^{-2} = 6^2$ D. $6^2 \div 6^5 = 6^3$