

Unit 7: Exponents and Scientific Notation

ADVANCED • SET 2

Name: _____ Date: _____

Show all work. Write each answer as an exact value; use scientific notation $a \times 10^n$ only when the problem asks for it, otherwise give a plain number, fraction, or short value.

1. Simplify to a single power of 3, then give its whole-number value: $(3^8 \times 3^{-2}) / 3^4$

Answer: _____

2. Compute and write the result as a single integer: $(2^5 \times 2^{-8}) \times 2^6$

Answer: _____

3. Evaluate $((5^2)^3 \times 5^{-4}) / 5^0$ and give the exact whole number.

Answer: _____

4. Simplify $(4 \times 10^6) \times (2.5 \times 10^{-3})$ and write the answer in scientific notation.

Answer: _____

5. Compute $(9.6 \times 10^8) / (3 \times 10^{-2})$ and write the answer in scientific notation.

Answer: _____

6. Add $(7.2 \times 10^5) + (8 \times 10^4)$ and write the sum in scientific notation.

Answer: _____

7. Write the number 0.00000406 in scientific notation.

Answer: _____

8. How many times larger is 6×10^9 than 1.5×10^4 ? Give the answer in scientific notation.

Answer: _____

9. Evaluate $(2^{-3})^{-2}$ and write the answer as a whole number.

Answer: _____

10. Compute $(8 \times 10^{-5})^2$ and write the answer in scientific notation.

Answer: _____

11. Simplify $(6^4 \times 6^{-1}) / (6^2 \times 6^{-3})$ and write the answer as a single power of 6 in the form 6^n ; give n.

Answer: _____

12. A signal travels 3×10^8 meters in 1 second. How many meters does it travel in 2.5×10^{-4} seconds? Write the answer in scientific notation.

Answer: _____