

Unit 7: Exponents and Scientific Notation

ADVANCED

Name: _____ Date: _____

Show all your work. Simplify every answer completely, and write answers in scientific notation ($a \times 10^n$) whenever the problem asks for it.

1. Simplify to a single integer: $(4^3)^2 / (4^2 \times 4^3)$.

Answer: _____

2. Evaluate and write as a fraction in lowest terms:
 $2^{-3} \times 3^2$.

Answer: _____

3. Evaluate and write as a fraction in lowest terms:
 $(\frac{2}{3})^{-3}$.

Answer: _____

4. Evaluate: $(2^3 \times 5)^2$.

Answer: _____

5. Multiply and express the result in scientific notation: $(5 \times 10^7) \times (4 \times 10^6)$.

Answer: _____

6. Divide and express the result in scientific notation:
 $(2.4 \times 10^3) / (8 \times 10^7)$.

Answer: _____

7. Write 0.00000705 in scientific notation.

Answer: _____

8. Add and express the result in scientific notation:
 $(4.5 \times 10^7) + (3 \times 10^6)$.

Answer: _____

9. Subtract and express the result in scientific notation: $(7.2 \times 10^{-4}) - (5 \times 10^{-5})$.

Answer: _____

10. How many times as large is 6×10^8 as 1.5×10^3 ? Give your answer in scientific notation.

Answer: _____

11. Evaluate: $(-2)^5 + (-3)^3$.

Answer: _____

12. Evaluate and express the result in scientific notation: $(3 \times 10^4)^3$.

Answer: _____