

Name _____

Date _____

Practice Set 6.7
Negative Exponents and Scientific Notation

Write each expression with positive exponents only. Then simplify, if possible.

1. 3^{-3} 1. _____

2. $(-6)^{-2}$ 2. _____

3. $3^{-1} + 4^{-1}$ 3. _____

4. $\frac{1}{2x^{-4}}$ 4. _____

Simplify each exponential expression. Assume that variables represent non-zero real numbers.

5. $x^{12} \cdot x^{-5}$ 5. _____

6. $\frac{-3a^7}{18a^9}$ 6. _____

7. $\frac{x^5}{(x^2)^{-3}}$ 7. _____

8. $(3x^{-2})(2x^5)$ 8. _____

Write each number in decimal notation without the use of exponents.

9. 3.1×10^4 9. _____

10. 6.017×10^0 10. _____

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11. 5.32×10^{-2} 11. _____

12. 9.146×10^{-3} 12. _____

Write each number in scientific notation.

13. 15,800 13. _____

14. 9,281 14. _____

15. 0.0057 15. _____

16. 0.000114 16. _____

Perform the indicated computations. Write the answers in scientific notation.

17. $(2 \times 10^3)(2 \times 10^4)$ 17. _____

18. $(4 \times 10^6)(2 \times 10)$ 18. _____

19. $\frac{8 \times 10^6}{2 \times 10^{-3}}$ 19. _____

20. $\frac{4 \times 10^5}{1 \times 10^{-2}}$ 20. _____