

Practice 8–1 and 8–2**Exponents****Simplify each expression.**

1. 16^0

2. 4^{-2}

3. 3^{-3}

4. 8^{-4}

5. $16 \cdot 4^0$

6. 9^0

7. $\frac{32^{-1}}{8^{-1}}$

8. $\frac{9}{2^{-1}}$

Evaluate each expression for $a = -2$ and $b = 6$.

9. b^{-2}

10. a^{-3}

11. $(-a)^{-4}$

12. $-b^{-3}$

Simplify each expression.

13. x^{-8}

14. xy^{-3}

15. $a^{-5}b$

16. m^2n^{-9}

17. $\frac{d^{-4}}{e^{-7}}$

18. $\frac{3m^{-4}}{n^{-8}}$

19. $\frac{6m^{-8}n}{p^{-1}}$

20. $\frac{a^{-2}b^{-1}}{cd^{-3}}$

Write each number as a power of 10 using negative exponents.

21. $\frac{1}{10,000}$

22. $\frac{1}{1,000,000}$

23. $\frac{1}{10,000,000}$

24. $\frac{1}{1,000,000,000}$

Write each expression as a decimal.

25. 10^{-5}

26. 10^{-8}

27. $4 \cdot 10^{-1}$

28. $6 \cdot 10^{-4}$

Write each number in standard notation.

29. 31.3×10^6

30. 83.7×10^{-4}

31. 0.018×10^{-1}

32. 0.016×10^5

Write each number in scientific notation.

33. 0.00000012

34. 975,000,000,000

35. 194×10^3

36. 154×10^{-3}

Order the numbers in each list from least to greatest.

37. 7×10^{-7} , 6×10^{-8} , 5×10^{-6} , 4×10^{-10}

38. 62,040, 6.2×10^2 , 6.207×10^3 , 6.34×10^{-1}

Simplify. Write each answer using scientific notation.

39. $4(3 \times 10^5)$

40. $5(7 \times 10^{-2})$

41. $8(9 \times 10^9)$

Complete the table.

		Units of Area in Square Feet	
	Unit	Standard Form	Scientific Notation
42.	1 in. ²		6.9444×10^{-3}
43.	1 link ²	0.4356	
44.	1 rod ²	272.25	
45.	1 mi ²		2.78×10^7
46.	1 cm ²	0.001076	
47.	1 hectare		1.0×10^7