

Practice 8-2

Scientific Notation

Write each number in standard notation.

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|-----------------------------|---------------------------|----------------------------|----------------------------|
| 1. 7×10^4 | 2. 3×10^{-2} | 3. 2.6×10^5 | 4. 7.1×10^{-4} |
| 5. 5.71×10^{-5} | 6. 4.155×10^7 | 7. 3.0107×10^2 | 8. 9.407×10^{-5} |
| 9. 31.3×10^6 | 10. 83.7×10^{-4} | 11. 0.018×10^{-1} | 12. 0.016×10^5 |
| 13. 8.0023×10^{-3} | 14. 6.902×10^8 | 15. 1005×10^2 | 16. 0.095×10^{-1} |

Write each number in scientific notation.

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|-----------------------|--------------------------|------------------------|----------------------------|
| 17. 51,000,000 | 18. 975,000,000,000 | 19. 0.00000012 | 20. 0.000005008 |
| 21. 1560 billion | 22. 0.5 million | 23. 2 thousandths | 24. 1095 millionths |
| 25. 194×10^3 | 26. 154×10^{-3} | 27. 0.05×10^6 | 28. 0.031×10^{-4} |
| 29. 790 thousand | 30. 25 hundredths | 31. 0.000000000159 | 32. 5,000,900,000,000 |

Order the numbers in each list from least to greatest.

33. $7 \times 10^{-7}, 6 \times 10^{-8}, 5 \times 10^{-6}, 4 \times 10^{-10}$
34. $5.01 \times 10^{-4}, 4.8 \times 10^{-3}, 5.2 \times 10^{-2}, 5.6 \times 10^{-2}$
35. 62,040, 6.2×10^2 , 6.207×10^3 , 6.34×10^{-1}
36. $10^{-3}, 5 \times 10^{-3}, 8 \times 10^{-2}, 4 \times 10^{-1}$

Simplify. Write each answer using scientific notation.

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|-----------------------------|-----------------------------|-----------------------------|
| 37. $4(3 \times 10^5)$ | 38. $5(7 \times 10^{-2})$ | 39. $8(9 \times 10^9)$ |
| 40. $7(9 \times 10^6)$ | 41. $3(1.2 \times 10^{-4})$ | 42. $2(6.1 \times 10^{-8})$ |
| 43. $3(1.2 \times 10^{-4})$ | 44. $3(4.3 \times 10^{-4})$ | 45. $3(3.2 \times 10^{-2})$ |

Complete the table.

| Units of Area in Square Feet | | |
|------------------------------|---------------|-------------------------|
| Unit | Standard Form | Scientific Notation |
| 46. 1 in. ² | | 6.9444×10^{-3} |
| 47. 1 link ² | 0.4356 | |
| 48. 1 rod ² | 272.25 | |
| 49. 1 mi ² | | 2.78×10^7 |
| 50. 1 cm ² | 0.001076 | |
| 51. 1 hectare | | 1.08×10^7 |