

# Practice 8-5

## Example Exercises

### Example 1

Write each number in scientific notation.

- |                     |                         |                         |                           |
|---------------------|-------------------------|-------------------------|---------------------------|
| 1. 7,100,000        | 2. 18,900,000,000       | 3. 0.000 03             | 4. 0.000 000 068          |
| 5. 120 billion      | 6. 4.5 million          | 7. 8 ten-thousandths    | 8. 375 millionths         |
| 9. $25 \times 10^5$ | 10. $76 \times 10^{-4}$ | 11. $0.025 \times 10^9$ | 12. $0.98 \times 10^{-3}$ |

Write each number in standard notation.

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|---------------------------|---------------------------|----------------------------|----------------------------|
| 13. $6 \times 10^3$       | 14. $8 \times 10^{-3}$    | 15. $4.5 \times 10^4$      | 16. $2.9 \times 10^{-6}$   |
| 17. $8.01 \times 10^{-4}$ | 18. $9.075 \times 10^8$   | 19. $1.0092 \times 10^6$   | 20. $5.045 \times 10^{-7}$ |
| 21. $17.8 \times 10^4$    | 22. $31.9 \times 10^{-2}$ | 23. $0.002 \times 10^{-3}$ | 24. $0.098 \times 10^7$    |

### Example 2

Simplify. Give each answer in scientific notation.

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|------------------------------------|-------------------------------------|-------------------------------------|
| 25. $5 \times (3.2 \times 10^6)$   | 26. $(6.4 \times 10^6) \div 8$      | 27. $8 \times (4.1 \times 10^{-2})$ |
| 28. $(4.5 \times 10^{-5}) \div 9$  | 29. $3 \times (7.4 \times 10^7)$    | 30. $(4.2 \times 10^{-3}) \div 6$   |
| 31. $(9.3 \times 10^9) \div 3$     | 32. $2 \times (3.7 \times 10^{-5})$ | 33. $2.1 \times (6 \times 10^3)$    |
| 34. $15 \times (4 \times 10^{-7})$ | 35. $(1.8 \times 10^{-8}) \div 9$   | 36. $(2.4 \times 10^5) \div 8$      |
| 37. $(3.2 \times 10^{-4}) \div 8$  | 38. $5 \times (4.1 \times 10^{-3})$ | 39. $(3.5 \times 10^{10}) \div 5$   |

### Example 3

Simplify. Give each answer in scientific notation rounded to the nearest hundredth.

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|--|--|--|
| 40. $(3.5 \times 10^8)(7.1 \times 10^2)$           | 41. $\frac{7.52 \times 10^{10}}{3.9 \times 10^4}$    | 42. $(5.1 \times 10^{10})(6.79 \times 10^{-4})$          |
| 43. $(4.16 \times 10^{-3})(7.7 \times 10^{-4})$    | 44. $\frac{8.015 \times 10^6}{1.754 \times 10^{11}}$ | 45. $\frac{3.013 \times 10^{-6}}{7.187 \times 10^{-13}}$ |
| 46. $\frac{5.72 \times 10^3}{6.11 \times 10^{-4}}$ | 47. $(9.28 \times 10^{-9})(3.75 \times 10^6)$        | 48. $\frac{9.97 \times 10^{-3}}{8.01 \times 10^5}$       |
| 49. $(6.1 \times 10^{15})(5.32 \times 10^{-8})$    | 50. $\frac{5.125 \times 10^6}{1.927 \times 10^{-3}}$ | 51. $(4.87 \times 10^{-15})(3.9 \times 10^{12})$         |
| 52. $\frac{3.975 \times 10^9}{2.15 \times 10^7}$   | 53. $(5.75 \times 10^7)(1.98 \times 10^{-5})$        | 54. $(7.9 \times 10^{-13})(6.41 \times 10^{10})$         |