

Name \_\_\_\_\_

Date \_\_\_\_\_

## Expressing the Very Large and the Very Small

**Directions:** Express each of the following numbers using scientific notation.

- |                          |                          |
|--------------------------|--------------------------|
| 1. 325 _____             | 21. 0.361 _____          |
| 2. 70 _____              | 22. 0.0428 _____         |
| 3. 96,400 _____          | 23. 0.00573 _____        |
| 4. 5,921 _____           | 24. 0.0005438 _____      |
| 5. 6,587,324,000 _____   | 25. 0.00005673 _____     |
| 6. 42.372 _____          | 26. 0.507 _____          |
| 7. 2.538 _____           | 27. 0.00483 _____        |
| 8. 3,621.471 _____       | 28. 0.0000000009 _____   |
| 9. 362.516 _____         | 29. 0.000421 _____       |
| 10. 4 _____              | 30. 0.0000054 _____      |
| 11. 240.000 _____        | 31. 0.000039256 _____    |
| 12. 3,752.6 _____        | 32. 0.06723 _____        |
| 13. 23,000,000,000 _____ | 33. 0.75140000 _____     |
| 14. 741,900 _____        | 34. 0.000000010 _____    |
| 15. 456.83 _____         | 35. 0.000023 _____       |
| 16. 17 _____             | 36. 0.000000614 _____    |
| 17. 3 _____              | 37. 0.0037004 _____      |
| 18. 5.000 _____          | 38. 0.00000038 _____     |
| 19. 215 _____            | 39. 0.01010 _____        |
| 20. 7,000,631 _____      | 40. 0.000000000001 _____ |

Name \_\_\_\_\_

Date \_\_\_\_\_

## Translating Scientific Numbers Into Everyday Expression

**Directions:** Write each of the following numbers as ordinary numbers.

- |                                     |                                   |
|-------------------------------------|-----------------------------------|
| 1. $3.64 \times 10^4$ _____         | 21. $2.97 \times 10^{-4}$ _____   |
| 2. $3.9734 \times 10^5$ _____       | 22. $3.88 \times 10^{-2}$ _____   |
| 3. $6.285 \times 10^3$ _____        | 23. $5.65 \times 10^{-1}$ _____   |
| 4. $6.7978 \times 10^0$ _____       | 24. $3.7283 \times 10^{-4}$ _____ |
| 5. $5.8643 \times 10^2$ _____       | 25. $4.763 \times 10^{-3}$ _____  |
| 6. $2.973 \times 10^1$ _____        | 26. $5.9267 \times 10^{-1}$ _____ |
| 7. $3.487 \times 10^3$ _____        | 27. $8.654 \times 10^{-2}$ _____  |
| 8. $2.9265 \times 10^5$ _____       | 28. $2.5417 \times 10^{-3}$ _____ |
| 9. $8.7321 \times 10^4$ _____       | 29. $9.865 \times 10^{-5}$ _____  |
| 10. $6.14300 \times 10^3$ _____     | 30. $8.673 \times 10^{-7}$ _____  |
| 11. $2.343 \times 10^1$ _____       | 31. $2.4863 \times 10^{-7}$ _____ |
| 12. $9.5000 \times 10^0$ _____      | 32. $2.251 \times 10^{-1}$ _____  |
| 13. $8.48 \times 10^2$ _____        | 33. $1.452 \times 10^{-3}$ _____  |
| 14. $2.926847212 \times 10^9$ _____ | 34. $2.685 \times 10^{-6}$ _____  |
| 15. $3.03 \times 10^7$ _____        | 35. $4.92 \times 10^{-5}$ _____   |
| 16. $4.29 \times 10^6$ _____        | 36. $4.000 \times 10^{-2}$ _____  |
| 17. $5.63 \times 10^4$ _____        | 37. $7.83 \times 10^{-3}$ _____   |
| 18. $3.286 \times 10^4$ _____       | 38. $8.429 \times 10^{-1}$ _____  |
| 19. $5.92000 \times 10^2$ _____     | 39. $5.376 \times 10^{-2}$ _____  |
| 20. $4.37521 \times 10^3$ _____     | 40. $2.986 \times 10^{-4}$ _____  |

Name \_\_\_\_\_

Date \_\_\_\_\_

### TEST — Scientific Notation, Rounding Numbers, and Calculator Speed and Accuracy

Write the answers to numbers 1 through 5 in standard form of scientific notation, correctly rounded to three figures.

1.  $(2.35 \times 10^4)(4.37 \times 10^{11}) =$  \_\_\_\_\_

2.  $(3.26 \times 10^{-2})(5.73 \times 10^{-8}) =$  \_\_\_\_\_

3.  $(1.04 \times 10^6)(6.37 \times 10^{-8}) =$  \_\_\_\_\_

4.  $(7.56 \times 10^{-10})(8.11 \times 10^{12}) =$  \_\_\_\_\_

5.  $(9.05 \times 10^6)(3.13 \times 10^5) =$  \_\_\_\_\_

Write the answers to numbers 6 through 10 in standard form of scientific notation, correctly rounded to two figures.

6.  $(7.65 \times 10^2) \div (2.50 \times 10^4) =$  \_\_\_\_\_

7.  $(7.86 \times 10^{-4}) \div (5.17 \times 10^5) =$  \_\_\_\_\_

8.  $(1.39 \times 10^0) \div (1.90 \times 10^8) =$  \_\_\_\_\_

9.  $(8.98 \times 10^1) \div (6.10 \times 10^2) =$  \_\_\_\_\_

10.  $(2.53 \times 10^2) \div (7.02 \times 10^7) =$  \_\_\_\_\_

Write the answers to number 11 through 20 in standard form of scientific notation, correctly rounded to three figures.

11.  $(2.54 \times 10^{-8})^2$  \_\_\_\_\_

16.  $\sin^{-1} 0.731$  \_\_\_\_\_

12.  $(2.95 \times 10^2)^{1/2}$  \_\_\_\_\_

17.  $\cos 25.6^\circ$  \_\_\_\_\_

13.  $(3.65 \times 10^3)^3$  \_\_\_\_\_

18.  $\cos^{-1} 0.473$  \_\_\_\_\_

14.  $(4.84 \times 10^{12})^{1/3}$  \_\_\_\_\_

19.  $\tan 25.6^\circ$  \_\_\_\_\_

15.  $\sin 62.5^\circ$  \_\_\_\_\_

20.  $\tan^{-1} 0.306$  \_\_\_\_\_

(continued)

Name \_\_\_\_\_

Date \_\_\_\_\_

### TEST — Scientific Notation, Rounding Numbers, and Calculator Speed and Accuracy (*continued*)

Write the answers to numbers 21 through 25 in standard form of scientific notation, correctly rounded to two figures.

21.  $\frac{(8.69 \times 10^{-9})(5.20 \times 10^6)}{(9.54 \times 10^1)(3.87 \times 10^{-1})} =$  \_\_\_\_\_

22.  $\frac{(8.20 \times 10^7)(2.52 \times 10^7)}{(6.84 \times 10^{-9})(1.15 \times 10^{-6})} =$  \_\_\_\_\_

23.  $\frac{(5.46 \times 10^{-8})(9.77 \times 10^{-8})}{(4.07 \times 10^3)(8.37 \times 10^3)} =$  \_\_\_\_\_

24.  $\frac{(2.66 \times 10^{-9})(6.95 \times 10^1)}{(1.23 \times 10^9)(5.51 \times 10^{-2})} =$  \_\_\_\_\_

25.  $\frac{(9.79 \times 10^2)(4.06 \times 10^{-7})}{(8.33 \times 10^{-7})(2.59 \times 10^4)} =$  \_\_\_\_\_