

**Chem Skills Worksheet #1: Scientific Notation**

**PART A:** Express the following numbers in scientific notation. Do not use calculators.

Example:  $378.55 = 3.7855 \times 10^2$

- |     |                             |     |       |
|-----|-----------------------------|-----|-------|
| 1.  | 567                         | 1.  | _____ |
| 2.  | .003                        | 2.  | _____ |
| 3.  | 0.0467                      | 3.  | _____ |
| 4.  | 14.77                       | 4.  | _____ |
| 5.  | 3,000,000                   | 5.  | _____ |
| 6.  | 4.879                       | 6.  | _____ |
| 7.  | .0000123                    | 7.  | _____ |
| 8.  | 45,082                      | 8.  | _____ |
| 9.  | $645 \times 10^{-5}$        | 9.  | _____ |
| 10. | $92562 \times 10^{-3}$      | 10. | _____ |
| 11. | $.33 \times 10^7$           | 11. | _____ |
| 12. | $.0000000589 \times 10^3$   | 12. | _____ |
| 13. | $.00422 \times 10^4$        | 13. | _____ |
| 14. | $.00422 \times 10^{-4}$     | 14. | _____ |
| 15. | 602,300,000,000,000,000,000 | 15. | _____ |

**PART B:** Express the following exponents as whole numbers. Do not use calculators.

Example:  $4.87904 \times 10^4 = 48,790.4$

- |     |  |     |       |
|-----|--|-----|-------|
| 16. | $3.564 \times 10^3$                                | 16. | _____ |
| 17. | $5.882 \times 10^1$                                | 17. | _____ |
| 18. | $2.98 \times 10^{-2}$                              | 18. | _____ |
| 19. | $3.7 \times 10^0$                                  | 19. | _____ |
| 20. | $9.439 \times 10^7$                                | 20. | _____ |
| 21. | $6.7 \times 10^{-5}$                               | 21. | _____ |
| 22. | $1.0 \times 10^{17}$ (age of universe in seconds)  | 22. | _____ |
| 23. | $.7 \times 10^{-2}$                                | 23. | _____ |
| 24. | $5.78 \times 10^8$                                 | 24. | _____ |
| 25. | $9.32450 \times 10^{-3}$                           | 25. | _____ |
| 26. | $1 \times 10^{-9}$ (size of an average atom in cm) | 26. | _____ |
| 27. | $7.465 \times 10^2$                                | 27. | _____ |
| 28. | $3.14 \times 10^3$                                 | 28. | _____ |
| 29. | $2.00 \times 10^{-4}$                              | 29. | _____ |
| 30. | $6.023 \times 10^{23}$ (a mole of something)       | 30. | _____ |