NAME Key DATE _____ PERIOD _____

# Lesson 6 Homework Practice

## *Scientific Notation*

**Write each number in standard form.**

1. $9.03 \times 10^2$ — 903.
2. $7.89 \times 10^3$ — 7,890.
3. $4.115 \times 10^5$ — 411,500.
4. $3.201 \times 10^6$ — 3,201,000
5. $5.1 \times 10^{-2}$ — 0.051
6. $7.7 \times 10^{-5}$ — 0.000077
7. $3.85 \times 10^{-4}$ — 0.000385
8. $1.04 \times 10^{-3}$ — 0.00104

**Write each number in scientific notation.**

9. 4,400. — $4.4 \cdot 10^3$
10. 75,000. — $7.5 * 10^4$
11. 69,900,000. — $6.99 * 10^7$
12. 575,000,000. — $5.75 * 10^8$
13. 0.084 — $8.4 * 10^{-2}$
14. 0.0099 — $9.9 * 10^{-3}$
15. 0.000000515 — $5.15 * 10^{-7}$
16. 0.0000307 — $3.07 * 10^{-5}$

17. Which number is greater: $3.5 \times 10^4$ or $2.1 \times 10^6$?

35,000 2,100,000

18. Which number is less: $7.2 \times 10^7$ or $9.9 \times 10^5$?

72,000,000 990,000

19. **POPULATION** The table lists the populations of five countries. List the countries from least to greatest population.

| Country | Population |
|---|---|
| Australia | $2 \times 10^7$ 20,000,000 |
| Brazil | $1.9 \times 10^8$ 190,000,000 |
| Egypt | $7.7 \times 10^7$ 77,000,000 |
| Luxembourg | $4.7 \times 10^5$ 470,000 |
| Singapore | $4.4 \times 10^6$ 4,400,000 |

Luxembourg
Singapore
Australia
Egypt
Brazil

20. **SOLAR SYSTEM** Pluto is $3.67 \times 10^9$ miles from the Sun. Write this number in standard form.

UNITS

3,670,000,000 miles

21. **MEASUREMENT** One centimeter is equal to about 0.0000062 mile. Write this number in scientific notation.

$6.2 * 10^{-6}$ miles

22. **DISASTERS** In 2005, Hurricane Katrina caused over $125 billion in damage in the southern United States. Write $125 billion in scientific notation.

125,000,000,000

$1.25 * 10^{11}$

NAME _____ DATE _____ PERIOD _____

# Lesson 6 Problem-Solving Practice

## *Scientific Notation*

Units

**1. MEASUREMENT** There are about 25.4 millimeters in one inch. Write this number in scientific notation.

$2.54 * 10^1$

or

$2.54 * 10$ mm

**2. POPULATION** In the year 2000, the population of Rahway, New Jersey, was 26,500. Write this number in scientific notation.

$2.65 * 10^4$ people

**3. MEASUREMENT** One nanometer is $1.0 \times 10^{-5}$ meter. Write this number in standard notation.

0.00001 meter

(1 hundred thousandths)

**4. PHYSICS** The speed of light is about $1.86 \times 10^5$ miles per second. Write this number in standard notation.

186,000 miles/second

**5. COMPUTERS** A CD can store about 650,000,000 bytes of data. Write this number in scientific notation.

$6.5 * 10^8$ bytes

**6. SPACE** The diameter of the Sun is about $1.39 \times 10^9$ meters. Write this number in standard notation.

1,390,000,000 meters

(1 billion, 390 million)

**7. BIOLOGY** The diameter of a certain virus is 0.000000028 meter. Write this number in scientific notation.

$2.8 * 10^{-8}$ meter

**8. MASS** The mass of planet Earth is about $5.98 \times 10^{24}$ kilograms. Write this number in standard notation.

5,980,000,000,000,000,000,000,000

Kilograms

Yikes!

(5 septillion 980 sextillions)