

Name \_\_\_\_\_

### Scientific Notation Worksheet

1. Write the following numbers in scientific notation:

- A. 32700
- B. 1,024,000
- C. 0.00047100
- D. 0.000 000 003 901
- E. 8960
- F. 0.000 23

2. Are the following numbers written correctly in scientific notation? If any of the numbers are wrong, rewrite the numbers correctly.

- A.  $0.000\ 341\ 2 = 3.412 \times 10^{-3}$
- B.  $475,5000,000 = 4.75 \times 10^8$
- C.  $0.000\ 056\ 0 = 5.6 \times 10^{-5}$
- D.  $18,060,000 = 18.06 \times 10^6$

3. Calculate the following:

- A.  $(4.21 \times 10^7) \times (8.3 \times 10^5)$
- B.  $(82,000) \times (4.1 \times 10^{-3})$
- C.  $(6.71 \times 10^{-4}) \div (486)$
- D.  $(62,300) \div (0.00721)$
- E.  $(4.18 \times 10^{-7}) \times (0.43 \times 10^{-5})$
- F.  $(5.0 \times 10^{-4}) \div (125)$
- G.  $(7.12 \times 10^7) \times (8.1 \times 10^4)$
- H.  $6.02 \times 10^{23} / 4.1 \times 10^{19}$
- I.  $(1.4 \times 10^{-1}) \times (2.4 \times 10^{-2})$
- J.  $(7.5 \times 10^3) \times (8.0 \times 10^{-5})$

# SCIENTIFIC NOTATION

## Part A

Change these numbers to scientific notation:

1. 24,300,000 \_\_\_\_\_

2. 0.00064 \_\_\_\_\_

3. 17,564 \_\_\_\_\_

Change these to regular numbers.

4.  $7.82 \times 10^5$  \_\_\_\_\_

5.  $2.83 \times 10^{-7}$  \_\_\_\_\_

## Part B

Perform these problems

6.  $(3 \times 10^4) \cdot (2 \times 10^3)$  \_\_\_\_\_

7.  $(8 \times 10^9) \div (2 \times 10^5)$  \_\_\_\_\_

8.  $(5 \times 10^7) \cdot (3 \times 10^{-2})$  \_\_\_\_\_

9.  $(4 \times 10^{-2}) \div (2 \times 10^4)$  \_\_\_\_\_

## Part C

Perform these operations on the calculator. Look carefully at the answers you get. Write: (a) the full calculator answer (b) the answer in scientific notation (if it is not already in scientific notation) (c) the *correctly rounded* answer in scientific notation.

EXAMPLE:  $(2.4 \times 10^5) \div 3.5 = ?$

(a) 68571.42857

(b)  $6.85714287 \times 10^4$

(c)  $6.8 \times 10^4$  (or  $6.9 \times 10^4$ )

⑩  $825 \div (2.5 \times 10^{-5}) = ?$

⑪  $2.84 \times 10^5 \cdot 3.1 \times 10^6$

PART C cont'd.

⑭  $17.0 \times 0.043$

⑮  $7.31 \times 10^4 \cdot 1.26 \times 10^8$

\* ⑯  $\frac{(3.2 \times 10^7)(6.7 \times 10^7)}{(1.84 \times 10^5)(2.1 \times 10^{-4})}$

⑫  $(1.84 \times 10^3) \cdot (3 \times 10^9)$

⑬  $42.7 \div 0.000074$