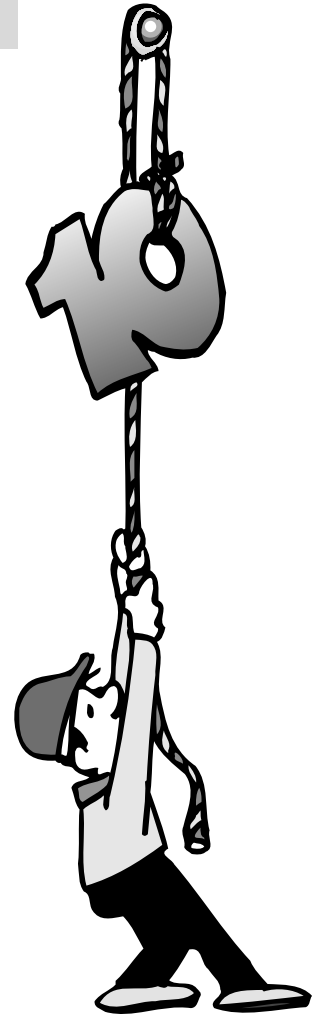


Name \_\_\_\_\_

## MULTIPLYING BY 10s AND 100s

**Directions:** Fill in the blanks.

- |                            |                             |
|----------------------------|-----------------------------|
| 1. $5 \times 10 =$ _____   | 11. $12 \times 10 =$ _____  |
| 2. $3 \times 10 =$ _____   | 12. $100 \times 2 =$ _____  |
| 3. $7 \times 10 =$ _____   | 13. $13 \times 10 =$ _____  |
| 4. $4 \times 10 =$ _____   | 14. $15 \times 10 =$ _____  |
| 5. $8 \times 10 =$ _____   | 15. $22 \times 10 =$ _____  |
| 6. $4 \times 100 =$ _____  | 16. $33 \times 10 =$ _____  |
| 7. $7 \times 100 =$ _____  | 17. $65 \times 100 =$ _____ |
| 8. $8 \times 100 =$ _____  | 18. $72 \times 10 =$ _____  |
| 9. $10 \times 10 =$ _____  | 19. $132 \times 10 =$ _____ |
| 10. $11 \times 10 =$ _____ | 20. $221 \times 10 =$ _____ |



**Directions:** Show your work. Label answers.

- The Sharp family runs a clothing store. They are buying tube socks in packs containing 10 pairs of socks. If there are 9 packs in each carton, how many pairs of socks are in each carton?
- The rack for shoes holds 23 rows. If there are 10 shoes in each row, how many shoes are on the rack?
- The Sharps need to know the width of the display window in inches. If the window is 9 feet wide, how wide is it in inches?
- List all the articles of clothing you can think of that begin with S. Each article of clothing needs 3 inches of space on a shelf. How many inches of space will you need for all the articles you listed?


**CHALLENGE:** State your answer to #24 in feet and inches.

**EXTRA CHALLENGE:** Convert your answer to metric.

## Exponents Express

This place value chart shows each place as a power of 10.

hundred thousands	ten thousands	thousands	hundreds	tens	ones
100,000	10,000	1,000	100	10	1
$10 \times 10 \times 10 \times 10 \times 10$	$10 \times 10 \times 10 \times 10$	$10 \times 10 \times 10$	$10 \times 10$	10	1
$10^5$	$10^4$	$10^3$	$10^2$	$10^1$	$10^0$



You can use powers of 10 when you write numbers in expanded form:

$$4,253 = (4 \times 10^3) + (2 \times 10^2) + (5 \times 10^1) + (3 \times 10^0)$$

Write each number in expanded form with exponents.

A. 3,296 \_\_\_\_\_

B. 4,715 \_\_\_\_\_

C. 63,502 \_\_\_\_\_

D. 84,790 \_\_\_\_\_

E. 99,000 \_\_\_\_\_

F. 720,463 \_\_\_\_\_

Write each number in standard form.

G.  $(4 \times 10^5) + (1 \times 10^4)$  \_\_\_\_\_

H.  $(5 \times 10^3) + (2 \times 10^2) + (7 \times 10^1) + (9 \times 10^0)$  \_\_\_\_\_

I.  $(1 \times 10^4) + (7 \times 10^3) + (9 \times 10^2) + (6 \times 10^1) + (3 \times 10^0)$  \_\_\_\_\_

J.  $(2 \times 10^4) + (8 \times 10^3) + (4 \times 10^2) + (1 \times 10^1) + (5 \times 10^0)$  \_\_\_\_\_

K.  $(3 \times 10^5) + (9 \times 10^4) + (3 \times 10^2) + (6 \times 10^0)$  \_\_\_\_\_

Name \_\_\_\_\_

# SCIENTIFIC NOTATION & STANDARD FORM

1. Evaluate.

a.  $10^3 =$  \_\_\_\_\_

b.  $10^4 =$  \_\_\_\_\_

c.  $10^6 =$  \_\_\_\_\_

d.  $10^2 =$  \_\_\_\_\_

e.  $10^7 =$  \_\_\_\_\_

f.  $10^5 =$  \_\_\_\_\_

2. Write each number using a power of 10.

a. 100 = \_\_\_\_\_

b. 10,000 = \_\_\_\_\_

c. 1,000,000 = \_\_\_\_\_

d. 1000 = \_\_\_\_\_

e. 100,000 = \_\_\_\_\_

f. 10 = \_\_\_\_\_

3. Write in standard form.

a.  $3 \times 10^2 =$  \_\_\_\_\_

b.  $5 \times 10^3 =$  \_\_\_\_\_

c.  $2 \times 10^2 =$  \_\_\_\_\_

d.  $4 \times 10^3 =$  \_\_\_\_\_

e.  $6 \times 10^6 =$  \_\_\_\_\_

f.  $8 \times 10^3 =$  \_\_\_\_\_

g.  $6 \times 10^2 =$  \_\_\_\_\_

h.  $7 \times 10^3 =$  \_\_\_\_\_

i.  $9 \times 10^4 =$  \_\_\_\_\_

4. Write each number in scientific notation.

a. 300 = \_\_\_\_\_

b. 5000 = \_\_\_\_\_

c. 200 = \_\_\_\_\_

d. 10,000 = \_\_\_\_\_

e. 200,000 = \_\_\_\_\_

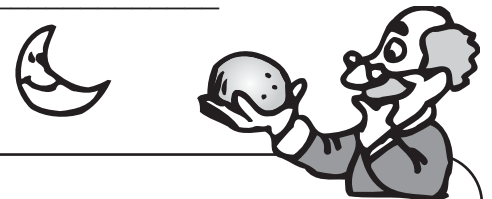
f. 60,000 = \_\_\_\_\_

g. 4000 = \_\_\_\_\_

h. 700 = \_\_\_\_\_

i. 90,000 = \_\_\_\_\_

j. In Washington, D.C.'s museum of American History, one of the displays contains a genuine moon rock. The moon is over 200,000 miles from the Earth at its apogee (farthest point). Write that distance in scientific notation. Answer: \_\_\_\_\_



## CHALLENGE:

Look at this pattern:  $\frac{x^4}{x^3} = x^1$      $\frac{x^4}{x^4} = x^0$

How could this be written as an exponent?  $\frac{x^4}{x^5} = ?$  Answer: \_\_\_\_\_