

NAME: _____

Very Large Numbers: Classwork

1. Multiply the following mentally.

a. $1.2 \times 10 =$

b. $0.23 \times 100 =$

c. $1.235 \times 1000 =$

d. $4.3 \times 1000 =$

e. $0.002 \times 100 =$

f. $1.56 \times 10,000 =$

2. The following are written in scientific notation. Rewrite them in **standard form**.

a. $9.3 \times 10^7 =$

b. $4.82 \times 10^4 =$

c. $3.01 \times 10^5 =$

d. $8.002 \times 10^7 =$

e. $5.1702 \times 10^8 =$

f. $3.14159 \times 10^7 =$

3. Write each number in **scientific notation**.

a. $5,300,000 =$

b. $104,000 =$

c. $8,050,000 =$

d. $73,002,000 =$

e. $9,012,000,000 =$

f. $87,500,300,000,000 =$

4. The approximate populations of several countries are listed below. Fill in the missing information.

Country	Population (scientific notation)	Population (standard form)
United States		310,000,000
Canada	3.42×10^7	
China		1,339,000,000
Iceland		317,900
India	1.18×10^9	
Israel	7.6×10^6	
Japan		127,000,000
Mexico		108,400,000
Philippines	9.4×10^7	
Somalia	9.36×10^6	

a. Which of these countries has the largest population?

b. Which of these countries has the smallest population?

c. Explain how you can use the scientific notation to compare the populations easily.

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5. Find the missing power.

a. $5.1387 \times 10^? = 51,387,000$

b. $9.8 \times 10^? = 9,800,000$

c. $2.8005 \times 10^? = 2,800,500,000$

d. $4.0007 \times 10^? = 400,070$

e. $8.5 \times 10^? = 8,500,000,000$

f. $3.022 \times 10^? = 30,220,000,000$

6. **Multiple Choice.** Which of the following is not equal in value to the other three?

A. 8.17×10^8

B. 0.817×10^9

C. $8,170,000 \times 10^2$

D. $8,170 \times 10^{11}$

7. **Multiple Choice.** Which of the following is not equal in value to the other three?

A. 6.403×10^{12}

B. 0.6403×10^{11}

C. 64.03×10^9

D. 6403×10^7

8. **Multiple Choice.** Which of the following is not equal in value to the other three?

A. 0.0029×10^7

B. 29×10^3

C. 2900×10^2

D. 2.9×10^4

9. The table shows each planet's approximate distance from the sun.

Suppose you had a space ship that traveled 250 miles per hour. How long would it take you to travel to the sun from these planets? Show your work!

a. Mercury?

b. Earth?

c. Uranus?

Planet	Distance from Sun (miles)
Earth	9.3×10^7
Jupiter	480,000,000
Mars	1.4×10^8
Mercury	36,000,000
Neptune	2.8×10^9
Saturn	886,000,000
Uranus	1.78×10^9
Venus	67,000,000

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Very Large Numbers: Homework

Completeness:

Correctness:

Exceeds Appr
Meets Below

10. Find the missing power.

a. $1.25 \times 10^? = 12,500,000$

b. $6.022 \times 10^? = 6,022,000,000$

c. $5.00032 \times 10^? = 50,003,200,000,000$

d. $9.01001 \times 10^? = 90,100,100,000$

11. The following are written in scientific notation. Rewrite them in **standard form**.

a. $4.5 \times 10^5 =$

b. $1.99 \times 10^7 =$

c. $8.32 \times 10^8 =$

d. $1.004 \times 10^6 =$

e. $4.0107 \times 10^7 =$

f. $9.01 \times 10^9 =$

12. Write each number in **scientific notation**.

a. 7,200 =

b. 390,000 =

c. 90,100,000 =

d. 1,423,000 =

e. 400,800,000 =

f. 7,100,000,000,000 =