

**Pre-Algebra, Unit 3B Practice Test: Scientific Notation**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

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1. A) Write a strategy for adding numbers expressed in scientific notation.
- B) Write a strategy for dividing numbers expressed in scientific notation.
2. (SE) What is  $2.78 \times 10^5$  written in standard form?
- A. 0.00000278  
B. 0.0000278  
C. 27,800  
D. 278,000
3. (SE) What is 0.0028 written in scientific notation?
- A.  $2.8 \times 10^{-3}$   
B.  $2.8 \times 10^{-2}$   
C.  $2.8 \times 10^2$   
D.  $2.8 \times 10^3$
4. Your calculator displays the answer  $2.76 \text{ E } ^{-4}$ . Rewrite this answer using scientific notation.
5. (SE) This division problem is entered into a scientific calculator:  
 $(6 \text{ E } 8) \div (3 \text{ E } 4)$ .  
Which shows what the calculator may display?
- A.  $2 \text{ E } ^{-4}$   
B.  $2 \text{ E } 4$   
C.  $1.8 \text{ E } 12$   
D.  $1.8 \text{ E } 13$

6. (SE) The length of a DVD case is given as  $6.25 \times 10^{-1}$  units. Which is the most reasonable unit of measure?
- A. inches
  - B. feet
  - C. yards
  - D. miles
7. Choose the most appropriate unit of measurement for “average pace for a walker”.
- A. inches per hour
  - B. inches per year
  - C. miles per hour
  - D. miles per year

(SE) For problems 8 and 9 perform the indicated operation. *Express your answer in scientific notation.*

8.  $(14.31 \times 10^6) - (1.8 \times 10^5)$

9.  $\frac{.003}{12 \times 10^{-6}}$

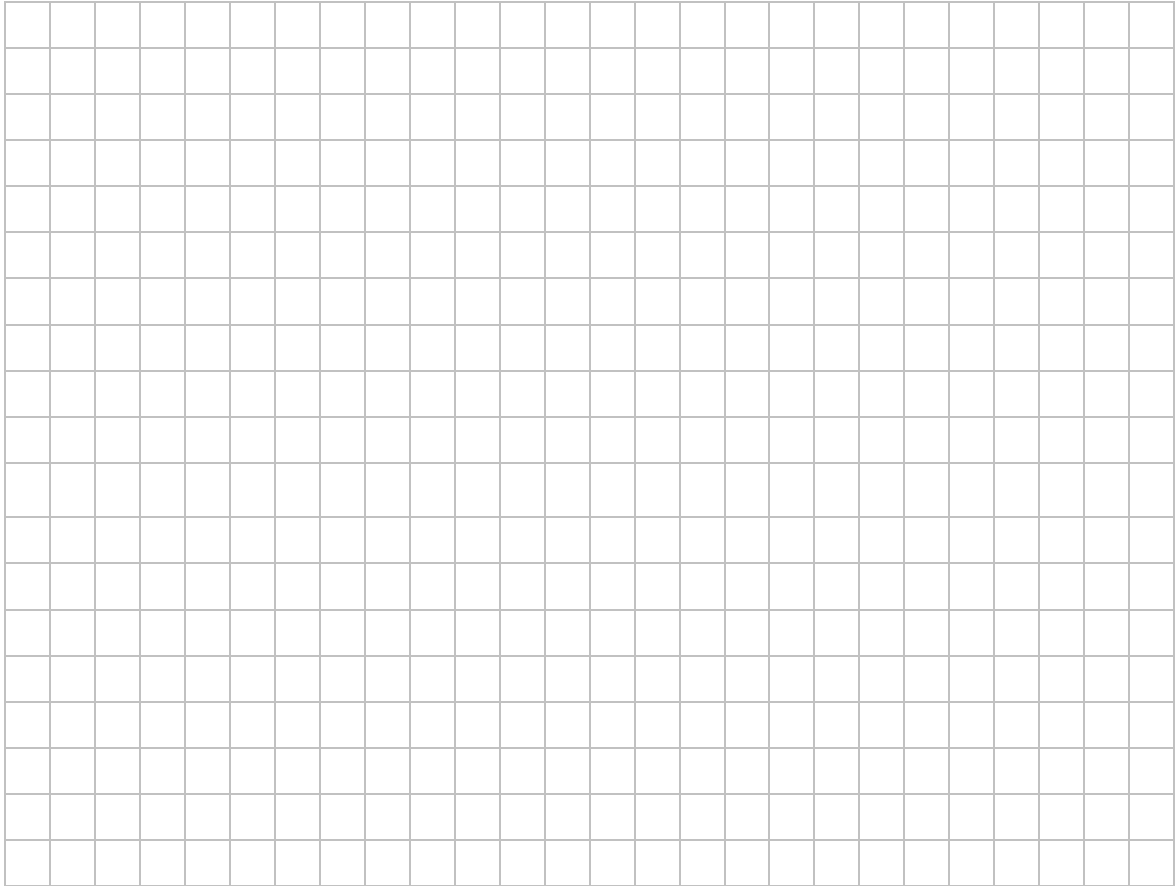
10. (SE) How much larger is  $8 \times 10^6$  compared to  $4 \times 10^2$  ?
- A. 2000 times
  - B. 4000 times
  - C. 20,000 times
  - D. 40,000 times

11. The speed of light is  $3 \times 10^8$  meters/second. If the sun is  $1.5 \times 10^{11}$  meters from earth, how many seconds does it take light to reach the earth? Express your answer in scientific notation

12. (SE) The table below shows the diameter of several planets.

Planet	Diameter (miles)
Mercury	3031
Earth	$7.926 \times 10^3$
Jupiter	88,734
Neptune	$3.02 \times 10^4$

- A. Express the diameter of Mercury in scientific notation.  
B. Express the diameter of Neptune in standard notation  
C. Approximately how many times greater is the diameter of Jupiter than the diameter of Mercury? Explain.



**Long term memory review:**

13. Evaluate the expression:  
Use only non-negative exponents.

$$\frac{2x^5}{8x^{-3}}$$

14. (SE) Solve the equation for  $x$ .

$$-\frac{4}{5}x + 6 = 26$$