Name: _____ Date: _____

CHAPTER TEST A

Scientific Notation

25

Suggested Time: 30 min

Concepts and Skills (10 × 1 point = 10 points)

Tell whether each number is written correctly in scientific notation. If incorrectly written, state the reason.

1. $1.75 \cdot 10^{\frac{1}{2}}$

2. $10.2 \cdot 10^{3}$

Express the following in scientific notation.

3. 40,102

4. 0.0057

Identify the greater number in each pair of numbers.

5. $4.6 \cdot 10^{-2}$ and $7.2 \cdot 10^{-3}$

6. $3.9 \cdot 10^{-13}$ and $5.7 \cdot 10^{-15}$

Evaluate. Write your answer in scientific notation.

7. $1.42 \cdot 10^{-5} + 2.5 \cdot 10^{-4}$

8. $4.3 \cdot 10^{5} - 4.2 \cdot 10^{4}$

Express each of the following in prefix form. Choose the most appropriate unit.

9. $4.2 \cdot 10^{12}$ bytes

10. $8.1 \cdot 10^{-3}$ meter

Name: _____ Date: _____

Problem Solving

(Questions 11 to 13: 3 × 2 points = 6 points,
Questions 14 to 16: 3 × 3 points = 9 points)

Solve. Show your work.

11. The average distance from the Earth to the Moon is approximately $4 \cdot 10^8$ meters.

a) Express this distance in megameters.

b) Express this distance in kilometers.

12. The mass of a proton is about $1.67 \cdot 10^{-24}$ gram. The mass of an electron is about $9.11 \cdot 10^{-28}$ gram.

a) What is the approximate sum of the masses of a proton and an electron? Write your answer in scientific notation.

b) About how many times as great is the mass of a proton than the mass of an electron?