

MINISTRY OF EDUCATION

Badaa Al Mutawa School

MATHEMATICS — M1L5 Scientific Notation

Student Name: _____ Grade: _____

Date: _____ Subject: Mathematics

Subject Teacher: Abdulkader Amro

Multiple-Choice Assessment

Choose the best answer. Each question has exactly one correct answer.

1. Write each number in standard form: 1.6×10^3 .

- A. 1,600
- B. 160
- C. 0.0016
- D. 16,000

2. Write each number in standard form: 1.49×10^{-7} .

- A. 0.0000149
- B. 0.00000149
- C. 0.000000149
- D. 0.0000000149

3. A calculator screen shows a number in scientific notation as $8.3E-6$. Write this number in standard form.

- A. 0.000083
- B. 0.000000083
- C. 0.0000083
- D. 0.00000083

4. A calculator screen shows a number in scientific notation as $7E11$. Write this number in standard form.

- A. 7,000,000,000
- B. 70,000,000,000
- C. 700,000,000,000
- D. 7,000,000,000,000

5. Write 2,204,000,000 in scientific notation.

- A. 2.204×10^8
- B. 22.04×10^8
- C. 2.204×10^{10}
- D. 2.204×10^9

6. Write 0.000000642 in scientific notation.

- A. 6.42×10^{-7}
- B. 6.42×10^{-8}
- C. 6.42×10^{-6}
- D. 0.642×10^{-6}

7. A common race is a 5K race, where runners travel 5 kilometers. Is it more appropriate to report the distance as 5 kilometers or 5×10^6 millimeters? Explain your reasoning.

- A. 5×10^6 millimeters, because millimeters are always more appropriate.
- B. 5 kilometers, because it is the standard unit used to describe a 5K race.
- C. Both are incorrect because 5 kilometers equals 5×10^3 millimeters.
- D. 5×10^6 millimeters, because the number is smaller.

8. The population of Florida was recently recorded as 20,612,439 people. Write an estimation in scientific notation for the population.

- A. 20.6×10^7
- B. 2.06×10^6
- C. 2.06×10^7
- D. 2.061×10^8

9. The diameter of a grain of sand is 0.0024 in. Write an estimation in scientific notation for the diameter.

- A. 2.4×10^{-3}
- B. 24×10^{-4}
- C. 2.4×10^{-2}
- D. 0.24×10^{-2}

10. The mass of planet Earth is about 5.98×10^{24} kilograms. When this number is written in standard notation, how many zeros are in the number?

- A. 21
- B. 24
- C. 22
- D. 23

11. The table shows approximate insect populations: Honeybees 7.3498×10^4 ; Ants 6.822×10^3 ;

Termites 9.8×10^5 ; Aphids 2.9502×10^4 . What is the combined population?

- A. 1,089,282
- B. 1,080,822
- C. 1,098,822
- D. 1,089,822

Insect	Population
Honeybees	7.3498×10^4
Ants	6.822×10^3
Termites	9.8×10^5
Aphids	2.9502×10^4

12. The table shows approximate populations and land areas: Arizona 6.83×10^6 and 113,594 mi²;

Colorado 5.46×10^6 and 103,642 mi²; Kentucky 4.43×10^6 and 39,486 mi²; Minnesota 5.45×10^6 and 79,627 mi². Which state has the least population density?

- A. Kentucky
- B. Minnesota
- C. Colorado
- D. Arizona

State	Population	Land Area (mi ²)
Arizona	6.83×10^6	113,594
Colorado	5.46×10^6	103,642
Kentucky	4.43×10^6	39,486
Minnesota	5.45×10^6	79,627

13. Simplify the following expression and write in scientific notation: $\frac{(0.00045)(500,000)}{0.0015}$.

- A. 3×10^{-7}
- B. 6×10^{-6}
- C. 3×10^{-6}
- D. 6×10^{-7}

14. The amount of time spent doing homework is 2.7×10^3 seconds. Choose a more appropriate measurement to report the amount of time spent doing homework.

- A. 45 minutes
- B. 27 hours
- C. 2.7 seconds
- D. 2.7 minutes

15. Katrina states that 3.5×10^4 is greater than 2.1×10^6 because $3.5 > 2.1$. Find her mistake and identify the correct comparison.

- A. She compared coefficients only; 3.5×10^4 is less than 2.1×10^6 .
- B. She should add the coefficients; the first number is greater.
- C. There is no mistake; 3.5×10^4 is greater.
- D. She should compare negative exponents; 3.5×10^4 is greater.

16. Give a number in scientific notation that is between 7.1×10^3 and 71,000,000.

- A. 9.0×10^7
- B. 7.5×10^2
- C. 6.9×10^3
- D. 8.0×10^4