Scientific Notation Study Guide

Student _____

Date _____

1. The diameter of Jupiter is approximately 9×10^4 miles. The diameter of Earth is approximately 8×10^3 miles. Approximately how many times the diameter of Earth is the diameter of Jupiter?

   A. 110

   B. 11

   C. 0.9

   D. 0.09

2. The area of the United States of America is approximately 9×10^6 square kilometers. The area of Delaware is approximately 5×10^3 square kilometers.
   About how many times larger is the area of the United States than the area of Delaware?

3. What is the standard form of 7.95×10^8?

   A. 795,000,000

   B. 7,950,000,000

   C. 79,500,000,000

4. How is 57,900,000 written in scientific notation?

   A. 5.79×10^8

   B. 5.79×10^7

   C. 5.79×10^6

   D. 5.79×10^5

5. What is the standard form of 3.2×10^{-3}?

   A. -3,200

   B. 0.00032

   C. 0.0032

6. Which is equivalent to 0.0043?

   A. 4.3×10^{-3}

   B. 4.3×10^{-2}

   C. 4.3×10^3

7. The mass of the Earth is 3×10^{-6} times the mass of the Sun. If the mass of the Sun is 2×10^{30} kilograms, what is the mass of the Earth, in kilograms?

   A. 6×10^{36}

   B. 6×10^{24}

   C. 6×10^{-5}

   D. 6×10^{-180}

8. The average distance of Mercury from the Sun is about 5.79×10^7 kilometers (km). The average distance of Jupiter from the Sun is about 13 times the distance of Mercury from the Sun. What is the approximate average distance of Jupiter from the Sun, in km?

A. 2×10^7

B. 7×10^7

C. 6×10^8

D. 8×10^8

9. A ship weighs 1.2×10^4 tons when it is empty. The ship's cargo, fuel, and crew weigh a total of 4.6×10^3 tons. What is the total weight of the ship with the cargo, fuel, and crew on board?

A. 5.8×10^4 tons

B. 5.8×10^7 tons

C. 1.66×10^4 tons

D. 1.246×10^4 tons

10. The approximate distance from the sun to the Earth is 9.29×10^7 miles, while the approximate distance from the Earth to Mars is 4.881×10^7 miles. Approximately how far, in miles, is Mars from the Sun?

A. 5.611×10^8

B. 1.4171×10^8

C. 4.409×10^7

D. 1.4171×10^7

11. Which is equivalent to $(2.0 \times 10^3)(2.0 \times 10^4)$?

A. 2.0×10^7

B. 4.0×10^7

C. 2.0×10^{12}

D. 4.0×10^{12}

12. Which expression is equivalent to $3.25 \times 10^6 + 3.25 \times 10^5$?

A. 3.575×10^2

B. 2.925×10^6

C. 3.575×10^6

D. 6.5×10^{11}

13. Which value is equivalent to $2.4 \times 10^4 - 1.7 \times 10^2$?

A. 238,300

B. 23,830

C. 2230

D. 70

14. What is the value of $\dfrac{3.0 \times 10^5}{1.5 \times 10^{-2}}$?

A. 2,000

B. 4,500

C. 15,000,000

D. 20,000,000

15. Which expression is equivalent to this fraction?

$$\frac{(23.04 \times 10^{24})}{(9.6 \times 10^{12})}$$

A. 2.4×10^{2}

B. 2.4×10^{12}

C. 13.44×10^{2}

D. 13.44×10^{12}

16. What is the value of $(4.6 \times 10^{5})(5.2 \times 10^{-2})$?

A. 23.92

B. 2,392

C. 23,920

17. Match the vocabulary word to the best deifinition or example.

Questions	Answer Choices
_____ **1.** Scientific Notation	**A.** Writing a number using digits/regular form. Ex. 32,000
_____ **2.** Standard Form	**B.** Keep the base and add the exponents
_____ **3.** Multiplying Exponents	**C.** Keep the base and subtract the exponents
_____ **4.** Dividing Exponents	**D.** Used to represent a decimal number between 1 and 10 multiplied by ten, so you can write large or small numbers using less digits.