

MODULE
15**Exponents and Scientific Notation****Module Quiz: B**

- Write 2.6×10^4 in standard notation.

- The population of a large U.S. city is 1,703,210. Write this population in scientific notation.

- Find the value of $(-6)^3$.

- When changing 67,430,000 to scientific notation, how many places is the decimal point moved?

- Let x be the first factor in an expression in scientific notation. Describe the possible values of x .

- Write the standard notation for a distance of 9.302×10^{10} miles.

- A number between 0 and 1 is written in scientific notation. The following term describes the exponent. Choose True or False for each term.

A integer	<input type="radio"/> True	<input type="radio"/> False
B whole number	<input type="radio"/> True	<input type="radio"/> False
C positive integer	<input type="radio"/> True	<input type="radio"/> False
D negative integer	<input type="radio"/> True	<input type="radio"/> False
- What is the scientific notation for a length of 0.0000923 centimeter?
A 9.23×10^{-6} cm C 92.3×10^{-5} cm
B 9.23×10^{-5} cm D 923×10^{-5} cm
- Simplify the expression $(7 - 2)^2 + (6 - 2)^3$.

- A dollar bill is about 0.00011 meter thick. What is this thickness in scientific notation?

- A distance of 6.5×10^{-8} is multiplied by 10. The result is written in scientific notation. What is the new exponent?

- A square garden has an area of 1,600 square feet. How long is each side of the garden?

- The following term could describe the number of yards gained or lost in a football game. Choose True or False for each term.

A rational number	<input type="radio"/> True	<input type="radio"/> False
B whole number	<input type="radio"/> True	<input type="radio"/> False
C real number	<input type="radio"/> True	<input type="radio"/> False
D integer	<input type="radio"/> True	<input type="radio"/> False

MODULE
15

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14. Why is this number not in scientific notation?

$$36.5 \times 10^6$$

15. Write 3.65×10^5 in standard notation.

16. What power of ten makes this statement true?

$$78,000,000,000 = 7.8 \times \underline{\hspace{1cm}}$$

17. Write your answer in scientific notation.

$$(6.4 \times 10^3) + (5.2 \times 10^4)$$

18. Round this population figure to two nonzero digits. Then write it in scientific notation.

186,453,000 people

19. Change a length of 0.00000843 meter to scientific notation.

20. Write a diameter of 7.024×10^{-5} centimeter in standard notation.

21. Write a decimal between 0.0006 and 0.0007. Then write the number in scientific notation.

22. A small organism with a length of 7.5×10^{-6} meter tripled in size. Write the new length in standard notation.

For 23–26, use the table.

Size (meters)	
water molecule	3.2×10^{-10}
typical virus	7.5×10^{-8}
small transistor	1.6×10^{-5}
grain of salt	1.6×10^{-4}
large ant	2.5×10^{-2}
height of Mount Everest	8.9×10^3
diameter of moon	3.5×10^6
diameter of sun	1.4×10^9

23. How many zeros are needed to write the diameter of the sun in standard notation?

24. Write the diameter of the transistor in standard notation.

25. How many digits are there in the standard notation for the height of Mount Everest?

26. An object is 100 times greater than the grain of salt. Describe the size of this object in scientific notation.

27. Arrange the numbers in order from greatest to least.

$$4.\bar{3}, \frac{\pi}{4}, \sqrt{75}, \frac{20}{13}$$

28. Write your answer in scientific notation.

$$(5.1 \times 10^7) + (1.3 \times 10^6)$$
