Convert between Standard Decimal and Scientific Notation

GO ON

1 Dr. Akins wrote the number 4.75×10^7 on the board. What is the number expressed in standard decimal notation?

A 0.000000475

B 4,750,000,000

C 47,500,000

D 475,000,000

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2 The diameter of the Sun is approximately 1,392,000,000 meters. What is this length expressed in scientific notation?

A 1392×10^9 m

B 1.392×10^9 m

C 1392×10^6 m

D 1.392×10^6 m

3 A very busy internet site registered 57,300,000 hits, or accesses to its website in one month. What is this number expressed in scientific notation?

A 5.73×10^7

B 5.73×10^5

C 0.573×10^6

D 0.573×10^5

4 The speed of light is 186,000 miles per second. What is this distance expressed in scientific notation?

A 0.186×10^6

B 1.86×10^5

C 18.6×10^5

D 186×10^3

5 In 2001, box office sales for moviegoers in the United States was \$8.4 billion. Which of these is equivalent to 8.4 billion?

A 8.4×10^9

B 8.4×10^{-6}

C 8.4×10^{-9}

D 8.4×10^6

GO ON

6 It is estimated that in the year 2025 the population of Russia will be 137,900,000. What is this value expressed in scientific notation?

A 1.379×10^5

B 1.379×10^8

C 13.79×10^6

D 13.79×10^7

7 Alpha Centauri is a star that is located 25,556,000,000,000 miles from Earth. What is 25,556,000,000,000 expressed in scientific notation?

A 2.5556×10^9

B 25.556×10^9

C 2.5556×10^{13}

D 25.556×10^{12}

GO ON

8 A researcher measured approximately 0.005123 grams of bacteria in a sample. How is this number expressed in scientific notation?

A 5.123×10^{3} grams

B 5.123×10^{-3} grams

C 5123×10^{-6} grams

D 0.5123×10^{-2} grams

9 The microsphere nanoscope is a powerful tool that allows humans to see structures 9×10^{-9} meter in diameter.

How is this number expressed in standard form?

A 0.000000009

B 0.0000000009

C 9,000,000,000

D 900,000,000

10 A microscopic cell measures 3.8×10^{-4} centimeters in diameter. What is this number in standard decimal notation?

A 0.000038 centimeters

B 0.00038 centimeters

C 0.0038 centimeters

D 38,000 centimeters

11 The mass of a textbook is approximately 0.00165 metric ton. How is this number written in scientific notation?

A 165×10^{-5}

B 1.65×10^{-3}

C 16.5×10^{-4}

D 0.165×10^{-2}

12 A nanosecond is a unit used to measure the speed of a computer. One nanosecond is equivalent to 0.000000001 of a second. Which of these is equivalent to one nanosecond?

A 1.0×10^{9} seconds

B 1.0×10^{-9} seconds

C 1.0×10^{8} seconds

D 1.0×10^{-8} seconds

13 Tomas Scheckter won the Bombardier Learjet 500 at Texas Motor Speedway by edging the second place finisher by 0.0534 seconds. What is this margin of victory written in scientific notation?

A 5.34×10^{2} seconds

B 534×10^{-5} seconds

C 5.34×10^{-2} seconds

D 53.4×10^{3} seconds

14 On a test students were to express in scientific notation the length of a particular bacterium that was 0.000027 millimeters long. Four friends put the following answers. Which friend was correct?

A Tom put 2.7×10^{-4}

B James put 0.27×10^{-6}

C Kevin put 2.7×10^{-5}

D Colton put 0.27×10^{-5}

15 The smallest marine fish known is the dwarf goby. The average length of this fish, for males, is just 3.39×10^{-1} inches. What is this exponent expressed in standard form?

A 339

B 33.9

C 0.339

D 0.0339

16 A microscopic cell measure 3.8×10^{-4} centimeters in diameter. What is this number in standard notation?

A 0.000038

B 0.00038

C 0.0038

D 0.038

BE SURE YOU HAVE RECORDED ALL OF YOUR ANSWERS ON YOUR ANSWER DOCUMENT

STOP