8.4 Key Concepts 1 Scientific Notation Worked Example

Example: Write 0.000 0047 in scientific notation.

Solution: Move the decimal to the right of the first non-zero digit. Count the number of places that the decimal point moved. This is the exponent. If you moved the decimal point to the right, the exponent is negative. If you moved the decimal point to the left, the exponent is positive. In this question, you must move the decimal point six places to the right, between the 4 and the 7. The exponent is –6, and the number is 4.7×10^{-6} in scientific notation.

Practice:

1. Write 280 000 in scientific notation.

2. Write 9.11×10^{-11} in standard notation.

Answers: 1. 2.8×10^5 2. 0.000 000 000 091 1