

8.4 Key Concepts 2 Scientific Notation Worked Example

Example: Evaluate $(5.2 \times 10^{10})(3.5 \times 10^{-7})$. Write your answer in scientific notation.

Solution: Multiply the numbers. Then, multiply the powers using the exponent rules. If necessary, write the answer in scientific notation.

$$\begin{aligned}(5.2 \times 10^{10})(3.5 \times 10^{-7}) &= 5.2 \times 3.5 \times 10^{10} \times 10^{-7} \\ &= 18.2 \times 10^3 \\ &= 1.82 \times 10^4\end{aligned}$$

Practice:

1. Evaluate $(8.4 \times 10^8)(1.1 \times 10^3)$.

2. Evaluate $\frac{6.3 \times 10^{20}}{1.8 \times 10^{12}}$.

Answers: 1. 9.24×10^{11} 2. 3.5×10^8