# Scientific Notation Physics II: Modern Physics 

College of the Atlantic

## Scientific Notation

1. Convert the following numbers to scientific notation:
(a) 10000
(b) 0.0004
(c) 123000000
2. Express the following quantities in scientific notation:
(a) 300 million
(b) 2.4 billion
3. Express the following quantities in non-scientific notation:
(a) $6.13 \times 10^{5}$
(b) $4.3 \times 10^{-3}$
4. Calculate the following, first without, and then with a calculator.
(a) $\left(4 \times 10^{6}\right) \times\left(5 \times 10^{3}\right)$
(b) $\left(10 \times 10^{3}\right) \times\left(5 \times 10^{-5}\right)$
(c) $\frac{30 \times 10^{9}}{200 \times 10^{6}}$
5. Evaluate the following using a calculator:

$$
\begin{gather*}
\frac{4 \pi}{\sqrt{3000 \times 2.2 \times 10^{-10}}}  \tag{1}\\
9.1 \times 10^{-31}\left(300 \times 10^{6}\right)^{2} \tag{2}
\end{gather*}
$$

