The Science of Physics

HOLT PHYSICS

Math Skills

The Language of Physics

1. Calculate the following products and quotients without using a calculator.

   a. $(3.0 \times 10^5) \times (2.0 \times 10^3)$ _____

   b. $(3.0 \times 10^5) \div (2.0 \times 10^3)$ _____

   c. $(3.0 \times 10^2) \div (2.0 \times 10^5)$ _____

   d. $(3.0 \times 10^{-2}) \times (2.0 \times 10^5)$ _____

   e. $(3.0 \times 10^{-2}) \div (2.0 \times 10^{-5})$ _____

   f. $(3.0 \times 10^{-2}) \times (2.0 \times 10^{-5})$ _____

2. Round off the following numbers to one figure.

   a. 3.7×10^5 _____

   b. 6.1×10^5 _____

   c. 8.2×10^{-9} _____

   d. 0.000067 _____

   e. 7439262 _____

   f. 0.0006739 _____

3. Find the order of magnitude of the following results without using a calculator.

   a. 97×192 _____

   b. $96.8639 \div 883.3525$ _____

4. **a.** Estimate the width and height in centimeters of a half-gallon milk container. Show your assumptions and your work.

   b. Use your numbers to obtain a rough estimate of the volume of milk in a half-gallon container. _____

   c. The volume of a half-gallon is about 1890 cm^3. How close was your estimate? _____