

## Problem-Solving Strategy

**Step 1 Read**

Read the problem carefully to determine *what question you must answer* and *what information is provided*.

**Step 2 Plan**

Plan your solution to the problem by *identifying the formula or equation you must use* and *writing out the formula or equation*.

**Step 3 Solve and Check**

Solve the problem by *first estimating the answer, then performing the operation(s) called for by the formula or equation, and finally checking the accuracy of your answer*.

### SAMPLE PROBLEM

What speed did a plane average if it flew 1760 meters in 8 seconds?

**Step 1 Read**

After reading the problem you know that you have to find the speed of the plane. The information provided in the problem, both digits and units, is

$$\begin{aligned}\text{distance} &= 1760 \text{ m} \\ \text{time} &= 8 \text{ sec}\end{aligned}$$

**Step 2 Plan**

The formula that will help you solve the problem is: speed is distance divided by time. Writing out the formula gives you

$$\text{speed} = \frac{\text{distance}}{\text{time}}$$

By replacing parts of the formula with information provided, you get

$$\text{speed} = \frac{1760 \text{ m}}{8 \text{ sec}}$$

**Step 3 Solve and Check**

Using mental arithmetic, you should estimate that the answer will be about 200 m/sec. You should also estimate the units in your solution to be meters per second. These are the units for speed. Now you can solve the problem.

$$\text{speed} = \frac{1760 \text{ m}}{8 \text{ sec}} = 220 \frac{\text{m}}{\text{sec}}$$

The speed of the plane was 220 m/sec.

First check this answer by comparing it with your estimate. Then multiply 220 m/sec by 8 sec = 1760 m. Your answer is correct.