Section Review

Objectives

- Identify a general approach to solving a problem
- Describe three steps for solving numeric problems
- Describe two steps for solving conceptual problems

Part A Completion

Use this completion exercise to check your understanding of the concepts and terms that are introduced in this section. Each blank can be completed with a term, short phrase, or number.

Effective problem solving involves developing a and the plan.

Your textbook teaches a -step approach to numeric problem solving. Step 1 is to the problem. Identify what is known and what is . Then make a for getting from the known to the unknown. Step 2 is to . If you have done a good job of planning, this should be straightforward.

Step 3 is to your answer. Does the answer make ?

An answer should be expressed in the correct and with the correct number of .

Part B True-False

Classify each of these statements as always true, AT; sometimes true, ST; or never true, NT.

12. All of the information needed to solve a numeric problem will be given in the problem.
13. Problem solving involves developing a plan.
14. The first step in solving a numeric problem is to calculate the answer.
15. If you have a good problem-solving plan, it is not necessary to check your work.
16. Identifying knowns and unknowns is part of the first problem-solving step.
17. Analyze and solve are the two steps for solving conceptual problems.
Part C Matching

Match each description in Column B to the correct term in Column A.

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>18. analyze</td>
<td>a. the starting point for solving a problem</td>
</tr>
<tr>
<td>19. calculate</td>
<td>b. Step 1 in the three-step problem-solving approach</td>
</tr>
<tr>
<td>20. evaluate</td>
<td>c. what a problem-solving plan is designed to identify</td>
</tr>
<tr>
<td>21. known</td>
<td>d. Step 3 in the three-step problem-solving approach</td>
</tr>
<tr>
<td>22. unknown</td>
<td>e. Step 2 in the three-step problem-solving approach</td>
</tr>
</tbody>
</table>

Part D Questions and Problems

Apply the three-step problem-solving approach to the problems below.

23. What is the length, in centimeters, of a 10.0-inch ruler, given that there are 2.54 centimeters per inch?

24. How many miles are there in 5.0 kilometers, given that there are 0.62 miles per kilometer?