Section 8.7

READING AND SELF-DISCOVERY QUESTIONS 8.7

1. When asked to solve a simple percent problem, what form of the percent do you use?

   You use the decimal form of the percent.

2. What three-step process do you use for solving applied percent problems?

   1) Write a percent statement to represent the situation.
   2) Translate the statement into an equation.
   3) Solve the equation.

3. When translating applied percent problems into equations, you must substitute mathematical symbols for English words. What symbol should replace each of the following words? (For example, "100 is what percent of 140?")

   is: **=** what: ***n*** of: **×**

CRITICAL THINKING QUESTIONS 8.7

1. What do you know about a percent if the percent of a number is **less** than the number?

   You know that the percent is less than 100%.

2. Is it possible to have a negative percent? Explain your answer.

   A percent is always positive. You cannot take a negative part of a number.

DEMONSTRATE YOUR UNDERSTANDING 8.7

1. What is the process for calculating 40% of 50?

   Convert 40% to decimal form. Multiply the decimal form by 50. Present the answer. Validate by dividing the result by 50.

2. What is the process for determining the following: 20 is 40% of what number?

   Convert 40% to decimal form. Divide 20 by the decimal form (0.4). Present the answer. Validate by multiplying the result by 0.4

3. Carlos has $100 in a savings account. He spends 20% of the original balance in year 1. He spends 20% of the remaining balance in year 2. How much money is left in his savings account at the end of the second year? (Assume that the money earns no interest.)

1st year spending: $100 × 0.20 = $20

Amount left after the 1st year: $100 - $20 = $80

2nd year spending: $80 × 0.20 = $16

Amount left after 2nd year: $80 - $16 = $64

IDENTIFY AND CORRECT THE ERRORS 8.7

In the second column, identify the error(s) you find in each of the following worked solutions. Describe the error made in the second column. Solve the problem correctly in the third column.

Problem	Describe Error	Correct Process
1. Find 115% of 20 **Worked Solution** *(What is wrong here?)* $x = 115\% \times 20$ $x = 115 \times 20$ $= \mathbf{2300}$	**Did not convert 115% to decimal form correctly.**	$115\% \times 20 = 1.15 \times 20 = 23$
Problem	**Describe Error**	**Correct Process**
2. What is 18% of 35? **Worked Solution** *(What is wrong here?)* $35 \div 0.18 = \mathbf{194.4}$	**Divided by the decimal equivalent of 18% rather than multiplying by the decimal equivalent of 18%.**	**$35 \times 0.18 = 6.3$**