## Lesson 8 Problem Solving Practice

### Financial Literacy

<table>
<thead>
<tr>
<th>Problem</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SAVINGS ACCOUNT</td>
<td>How much interest will Hannah earn in 4 years if she deposits $630 in a savings account at 6.5% simple interest?</td>
</tr>
<tr>
<td>2. INVESTMENTS</td>
<td>Terry invested $2,200 in the stock market for 2 years. If the investment earned 12%, how much money did Terry earn in 2 years?</td>
</tr>
<tr>
<td>3. RETIREMENT</td>
<td>Mr. Pham has $410,000 in a retirement account that earns 3.85% simple interest each year. Find the amount earned each year by this investment.</td>
</tr>
<tr>
<td>4. COLLEGE FUND</td>
<td>When Melissa was born, her parents put $8,000 into a college fund account that earned 9% simple interest. Find the total amount in the account after 18 years.</td>
</tr>
<tr>
<td>5. LOTTERY</td>
<td>Raj won $900,000 in a regional lottery. After paying $350,000 in taxes, he invested the remaining money in a savings account at 4.25% simple interest. How much money is in the account if Raj makes no deposits or withdrawals for two years?</td>
</tr>
<tr>
<td>6. SAVINGS</td>
<td>Mona opened a savings account with a $500 deposit and a simple interest rate of 5.6%. If there were no deposits or withdrawals, how much money is in the account after 8$\frac{1}{2}$ years?</td>
</tr>
<tr>
<td>7. SAVINGS ACCOUNT</td>
<td>Malik deposited $1,060 in a savings account, and it earned $241.50 in simple interest after four years. Find the interest rate on Malik’s savings account.</td>
</tr>
<tr>
<td>8. INHERITANCE</td>
<td>Kelli Rae’s inheritance from her great-grandmother was $220,000 after taxes. If Kelli Rae invests this money in a savings account that earns $18,260 in simple interest every year, what is the interest rate on her account?</td>
</tr>
</tbody>
</table>
**Vocabulary Check**

Complete the crossword puzzle using the vocabulary list at the beginning of the chapter.

**Down**

1. type of percent when the final amount is greater than the original amount
2. statement that two ratios are equal
3. amount that the regular price is reduced
4. difference between what a store pays for an item and what a customer pays
5. price that a customer pays for an item
6. mathematical sentence stating that two expressions are equal
7. another term for the term in 3 down
8. gratuity
9. additional amount of money charged to items that people buy

**Across**

6. type of percent that compares the inaccuracy of an estimate to the actual amount
10. amount of money deposited or borrowed
11. amount paid or earned for the use of money
12. type of percent that compares the final amount to the original amounts
Problem Solving

1. **Justify Conclusions** The table shows the results of a survey in which 175 students were asked what type of food they wanted for a class party. How many students chose Italian food? Explain. (Lesson 1)

<table>
<thead>
<tr>
<th>Type of Food</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subs</td>
<td>32%</td>
</tr>
<tr>
<td>Tex-Mex</td>
<td>56%</td>
</tr>
<tr>
<td>Italian</td>
<td>12%</td>
</tr>
</tbody>
</table>

\[
\frac{12}{100} = \frac{X}{175}
\]

\[
\frac{100X}{100} = 1200
\]

\[
X = 21
\]

2. A soccer team lost 30% of its games. Suppose the team won 14 games. How many games did the team play? (Lesson 3)

\[
\frac{14}{X} = \frac{70}{100}
\]

\[
X = 20
\]

3. Tyree bought a collectible comic book for $49.62 last year. This year, he sold it for $52.10. Find the percent of change of the price of the comic book. Round to the nearest percent. (Lesson 5)

\[
\frac{-52.10}{49.62} = \frac{-2.48}{2.48} = 0.99 = 99\% \rightarrow 5\%
\]

4. **Justify Conclusions** A restaurant bill comes to $42.75. Suppose the sales tax is 6% and a 15% tip is left on the amount after the tax is added. How much in all did the customer pay? Explain. (Lesson 6)

\[
\begin{align*}
\text{Tax:} & \quad 42.75 \times 0.06 = 2.57 \\
\text{Tip:} & \quad 45.32 \times 0.15 = 6.80 \\
\text{Total:} & \quad 45.32 + 6.80 = 52.12
\end{align*}
\]

5. A new radio is priced at $30. An electronics store has an end-of-the-year sale. All of the items in the store are discounted by 40%. What is the sale price of the radio? (Lesson 7)

\[
30 \times 0.60 = 18
\]

\[
30 - 12 = 18
\]

6. **Financial Literacy** Aleta deposited $450 into a savings account earning 3.75% simple interest. How much interest will she earn in 6 years? Explain. (Lessons 8)

\[I = p \times r \times t\]