Problem Solving • Analyze Relationships

The table shows the number of cups of yogurt needed to make different amounts of a fruit smoothie. Use the table for 1–3.

<table>
<thead>
<tr>
<th>Batches, b</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cups of Yogurt, c</td>
<td>9</td>
<td>12</td>
<td>15</td>
<td>18</td>
</tr>
</tbody>
</table>

1. Write an equation to represent the relationship.

The number of cups needed is \( \frac{3}{3} \) multiplied by the number of batches,

so \( c = \frac{3}{3} \times b \).  

\[ c = 3(9) = 27 \]  

27 cups

2. How much yogurt is needed for 9 batches of smoothie?

3. Jerry used 33 cups of yogurt to make smoothies. How many batches did he make?

\[ \frac{33}{3} = 11 \]  

11 batches

The table shows the relationship between Winn’s age and his sister’s age. Use the table for 4–6.

<table>
<thead>
<tr>
<th>Winn’s age, w</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winn’s sister’s age, s</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
</tr>
</tbody>
</table>

4. Write an equation to represent the relationship.

\[ s = w + 4 \]

5. When Winn is 14 years old, how old will his sister be?

\[ s = 14 + 4 = 18 \]

6. When Winn’s sister is 23 years old, how old will Winn be?

\[ 23 = w + 4 \]

\[ w = 19 \]