Problem-Solving Strategy: Draw a Picture

At the Lincoln School Fair, \(\frac{1}{3}\) of the booths were for bake sales, \(\frac{1}{6}\) were for crafts, and 9 were for games. How many booths were there in all?

**Write what you know about the problem.**
- \(\frac{1}{3}\) were for bake sales.
- \(\frac{1}{6}\) were for crafts.
- 9 were for games.

**Draw a picture to help solve the problem.**

<table>
<thead>
<tr>
<th>All Booths</th>
<th>Bake Sales</th>
<th>Crafts</th>
<th>Games</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bake Sales</td>
<td>(\frac{1}{3})</td>
<td>(\frac{1}{6})</td>
<td>(\frac{1}{2}) or (\frac{3}{6})</td>
</tr>
</tbody>
</table>

Draw 6 equal parts because \(\frac{1}{3}\) and \(\frac{1}{6}\) can be shown as sixths.

**Use the picture to help solve the problem.**
Nine booths were \(\frac{1}{2}\) of all the booths.
Then \(2 \times 9\), or 18, is the total number of booths.

**Draw a Picture to solve each problem.**

1. At the fair, \(\frac{1}{4}\) of the student displays were science projects, \(\frac{1}{8}\) of the student displays were writing projects, and 20 were crafts. How many student displays were there?

   **Show your work.**

2. Of the students who performed music, \(\frac{3}{4}\) sang, \(\frac{1}{8}\) played the trumpet, and 6 played the piano. How many students performed music?

3. Fifty people entered the marathon. Half of the entries were females. How many males entered the race?