1. \{January, June, July\};

2. *To be equal, each element should be the same, despite the order.* As we can see, none of the elements is equal, so these sets are not equal.

*To be equivalent, sets have to have an equal number of elements.* In set A, the number of elements is 3, and in set B, the number of elements – 3. **So these sets are equivalent, but not equal.**

3. If the set contains 9 elements, the number of subsets will be \(2^9\)

4. The service provides us with 6 features. According to (3), a number of subsets will be \(2^6\).

5. \[ C = A \cap B \]
6. In the instructions, we see only two groups of students: who visited student council and who visited intramurals. So let's divide them into two sets: A - visited student council and B - visited intramurals.

Let’s check, what’s given in instructions and what should we find:

<table>
<thead>
<tr>
<th>Given:</th>
</tr>
</thead>
<tbody>
<tr>
<td>( A \cup B = 46 )</td>
</tr>
<tr>
<td>( A/B = 30 )</td>
</tr>
<tr>
<td>( A \cap B = 4 )</td>
</tr>
</tbody>
</table>

\( B/A = ? \)

Let’s represent the information, like a math equation.

\[ A + B + C = 46; \]
\[ A - C = 30; \]
\[ C = 4; \]

As we can see, we can solve the problem by solving a simple equation. Let’s do it:

\[ A = 30 + C = 34; \]
\[ B = 46 - A - C = 46 - 34 - 4 = 8 \]

So the answer is – eight students.
**Explanation:** Black areas are what is True and white (and grey) – false. Union of A’ and B’ is everything. Because A' covers everything, but A (same for B’).

As you may see from diagrams, 2\textsuperscript{nd} and 3\textsuperscript{rd} in a first row are not equal, so the statement is not equal.

9.  
A – pumpkins, B – pies. As shown in the diagram, the result is 37.

10.  
Here we need to be careful with instructions.  
A (whole circuit) – mysteries
Given:

\[
\begin{align*}
A + G + E + F &= 44 \\
B + D + E + G &= 33 \\
C + D + E + F &= 29 \\
G + E &= 13 \\
D + E &= 5 \\
E + F &= 11 \\
E &= 2 \\
\end{align*}
\]

\[A + B + D + E + F + G = ?\]

As we can see, we almost have an answer:

\[A + (B + D + E + G) + F = A + 33 + F = ?\]

F can be calculated from the 6th equation. \(F = 11 - E = 11 - 2 = 9\)

So now, we need to find A. Let's use the first equation:

\[A + G + E + F = 44\]
\[ A + (G + E) + F = A + 13 + 9 = 44 \]

\[ A = 44 - 13 - 9 = 22 \]

Now, let’s put everything together:

\[ A + (B + D + E + G) + F = 22 + 33 + 9 = 64 \]

So the answer is – sixty-four customers.