There are 43 girls and 37 boys studying maths. 45 of them are prefer mechanics and 35 of them prefer statistics.

How many more girls are there who prefer mechanics than there are boys who prefer statistics?

<table>
<thead>
<tr>
<th></th>
<th>?</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>?</td>
<td>x</td>
<td>?</td>
</tr>
<tr>
<td>5</td>
<td>?</td>
<td>9</td>
</tr>
</tbody>
</table>

This is a magic square (all the rows, columns and diagonals have the same total).

What is the value of $x$?

A giant cactus weighed 50 pounds and was 98% water. During a rainy day, it then absorbed water so that it became 99% water. What was its new weight (in pounds)?

Let $a$, $b$, $m$, and $n$ be positive integers, with $n > 1$. Show that $a^n + b^n = 2^m$ implies $a = b$.

Let $\{a_n\}$ be a sequence of positive integers satisfying $a_{n+3} = a_{n+2}(a_{n+1} + a_n)$, for $n = 1, 2, 3, \ldots$. Given that $a_6 = 8820$, find $a_7$. 

Number Theory Corner!