

# Problem of the Week

Patterns and Relations is significant in student mathematical understanding. It's imperative that students have opportunities to develop their algebraic reasoning as they engage with problems. The tasks are meant to be open-ended so that discussion can support understanding.

*Be mindful that during these prompts, it is important the teacher listens to student conversations and asks questions that illicit student thinking.*

<b>Primary</b>	<p>The following pattern was given to a group of students:</p> <p style="text-align: center;">3    6    9</p> <p>Dominic and Aanya each made patterns. Dominic shared that he identified 15 as the 5<sup>th</sup> term in the pattern and 18 as the 6<sup>th</sup> term in the pattern. Aanya shared that she identified 24 as the 5<sup>th</sup> term in the pattern and 39 as the 6<sup>th</sup> term in the pattern.</p> <p>Dominic said that Aanya was incorrect. Is there a way that Aanya could be correct? How do you know?</p>
----------------	--

<b>Elementary</b>	<p>The following input-output table has one error in the input column and one error in the output column. Identify the errors and record the expression represented in the table.</p> <table border="1" style="margin-left: auto; margin-right: auto;"><thead><tr><th>Input</th><th>Output</th></tr></thead><tbody><tr><td>4</td><td>3</td></tr><tr><td>14</td><td>9</td></tr><tr><td>8</td><td>4</td></tr><tr><td>18</td><td>10</td></tr><tr><td>10</td><td>6</td></tr></tbody></table>	Input	Output	4	3	14	9	8	4	18	10	10	6
Input	Output												
4	3												
14	9												
8	4												
18	10												
10	6												

<b>Intermediate</b>	<p>The following 10 digits make up five ordered pairs. These five ordered pairs are taken from a multi-step expression.</p> <p style="text-align: center;">6    11    8    20    14    9    29    3    4    26</p> <p>Once you have identified the correct ordered pairs, what would the y-coordinate would be for an x-coordinate of 12?</p>
---------------------	---