Dot Patterns

1. Answer the questions about this series of pictures.

**Picture 1:** Here is an array of dots.

```
• •
```

How many dots are there?

**Picture 2:** Now consider this array of dots.

```
• • •
```

How many more dots do you need to make this pattern?

**Picture 3:** Now consider this array of dots.

```
• • •
```

How many more dots are there in this array than in Picture 2?

**Picture 4:** What would the next array look like?

2. Continuing the pattern, how many dots would need to be added to Picture 100 to make Picture 101? Tell how you got your answer.

3. Can you describe the pattern of the number of dots as a function of the Picture number? Tell how you got your answer.

4. Can you tell how many dots there would be in Picture 100? Tell how you got your answer.

Here is a table to keep track of the number of dots.

<table>
<thead>
<tr>
<th>Picture number</th>
<th>Number of dots added to previous picture</th>
<th>Total number of dots in the picture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>2</td>
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<tr>
<td>3</td>
<td></td>
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<tr>
<td>4</td>
<td></td>
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<tr>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>101</td>
<td></td>
<td></td>
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</tbody>
</table>