Cheerleader Competition

The cheerleaders are preparing for the county competition. They must perform on stage in a rectangular array that meets these rules:

- There must be at least 2 cheerleaders in each row or column.
- Each row must have the same number of cheerleaders.
- Each column must have the same number of cheerleaders.

There are 12 cheerleaders in the squad this year.
- How many different rectangular arrays can the cheerleaders form?
- Describe each of the ways you found using numbers, words and/or pictures.
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**Answer:**

The cheerleaders can form any of the following arrays:

- 4 rows of 3 cheerleaders = 12 cheerleaders
  
  \[
  \begin{array}{ccc}
  \times & \times & \times \\
  \times & \times & \times \\
  \times & \times & \times \\
  \times & \times & \times \\
  \end{array}
  \]

- 3 rows of 4 cheerleaders = 12
  
  \[
  \begin{array}{cccc}
  \times & \times & \times & \times \\
  \times & \times & \times & \times \\
  \times & \times & \times & \times \\
  \end{array}
  \]

- 6 rows of 2 cheerleaders = 12
  
  \[
  \begin{array}{cc}
  \times & \times \\
  \times & \times \\
  \times & \times \\
  \times & \times \\
  \times & \times \\
  \times & \times \\
  \end{array}
  \]

- 2 rows of 6 cheerleaders = 12
  
  \[
  \begin{array}{cccccc}
  \times & \times & \times & \times & \times & \times \\
  \times & \times & \times & \times & \times & \times \\
  \end{array}
  \]

The 12 cheerleaders can use any of the 4 different formations pictured above to satisfy the competition rules.