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**Making Rectangles to Identify Factors**

Using the graph provided, show all the different rectangles you can make using the number of tiles indicated and draw them on the grid below (shade tiles using a pencil or colored pencil). Complete the rest of the chart after you have created all the possible number of rectangles with the given number of tiles.

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| **Number of Tiles** | **Rectangles** | | | | | | | | | | | | | | | | | | | | **List the Factor Pairs** | **Is it a Prime or Composite Number?** |
| **4** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **12** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **11** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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**Practice:**

List all the factors of each number. You can use either the rainbow method or the T-Chart method. Factors need to be arranged in order from least to greatest.

1. 49 2. 12 3. 52 4. 75

**Prime Factorization:** Write the prime factorization of each number. Show your work as a factor tree and circle all prime numbers, then check to see that your answer is written as a product of prime numbers.

5. 6. 7. 8.

Create a factor tree for   
**490**

Create a factor tree for   
**100**

Create a factor tree for   
**24**

Create a factor tree for   
 **18**

Write your answers below in the correct prime factorization form:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Double check….. Are all the numbers in your final answer prime numbers? Yes or No.

If no, go back and break down your number further until you only have a product of prime numbers.