**Straws and Connectors Worksheet 14b- Growing U-Tower**

**Figure 1 Figure 2 Figure 3**

**What do you notice?**

**What do you wonder?**

**Straws and Connectors Worksheet 14b- Growing U -Tower**

1. **Visual Pattern. Draw figure 4**

**Figure 1 Figure 2 Figure 3 Figure 4**

1. **Table**

|  |  |  |
| --- | --- | --- |
| **Figure Number (n)** | **Number of Connectors(C)** | **Number Of Straws(S)** |
| ***1*** |  |  |
| ***2*** |  |  |
| ***3*** |  |  |
| ***4*** |  |  |
| ***5*** |  |  |
| ***10*** |  |  |
| ***20*** |  |  |
| ***n*** |  |  |

1. **a) Rule in words for finding the number of connectors for any figure number- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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**b) Rule in words for finding the number of straws for any figure number\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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**IV . Rule in Symbols a)**Rule for Connectors b) Rule for Straws

**V. Graph** . Plot the ordered pairs on the same coordinate plane. Label each graph with its corresponding equation.

Set 1

|  |  |
| --- | --- |
| **n** | **C** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

Set 2

|  |  |
| --- | --- |
| **n** | **C** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
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1. **Describe the graph of each equation.**

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1. **What geometric relationship exists between the two graphs?**

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1. **What conclusion can you make about the two equations and their graphs?**

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**Straws and Connectors Worksheet 14b- Growing U-Tower**

1. **Visual Pattern. Draw figure 4**

**Figure 1 Figure 2 Figure 3 Figure 4**

1. **Table-** Complete the Table below.

|  |  |  |
| --- | --- | --- |
| **Figure Number (n)** | **Number of Connectors(C)** | **Number Of Straws(S)** |
| *1* | ***24+8(0)=24*** | ***44+16(0)=44*** |
| *2* | ***24+8(1)=32*** | ***44+16(1)=60*** |
| *3* | ***24+8(2)=40*** | ***44+16(2)=76*** |
| *4* | ***24+8(3)=48*** | ***44+16(3)=92*** |
| *5* | ***24+8(4)=56*** | ***44+16(4)=108*** |
| *10* | ***24+8(9)=96*** | ***44+16(9)=188*** |
| *20* | ***24+8(19)=176*** | ***44+16(19)=348*** |
| *n* | ***24+8(n-1)=8n+16*** | ***44+16(n-1)=16n+28*** |

1. **a)Rule in words for finding the number of connectors for any figure number . *The number of connectors is equal to 8 times the figure number plus 16.***

**b) Rule in words for finding the number of straws for any figure number. *The number of straws is equal to 16 times the figure number plus 28.***

**IV . Rule in Symbols**

1. Rule for Connectors b) Rule for Straws

**C = 8n + 16 S = 16n + 28**

1. Graph



