**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 15a- Growing Square Rack**

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

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

1. **Table**

|  |  |  |
| --- | --- | --- |
| **Figure Number (n)** | **Number of Cubes(C)** | **Number Of Square Faces(S)** |
| ***1*** |  |  |
| ***2*** |  |  |
| ***3*** |  |  |
| ***4*** |  |  |
| ***5*** |  |  |
| ***10*** |  |  |
| ***20*** |  |  |
| ***n*** |  |  |

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

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**b) Rule in words for finding the number of square faces for any figure number.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**IV . Rule in Symbols a)**Rule for Cubes b) Rule for Square Faces

**V. Graph** . Plot the ordered pairs on the same coordinate plane. Connect all points on each set . Set 1 – (n,C) , Set 2 –(n, S)



**Straws and Connectors Worksheet 15a- Growing Square Rack**

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 Cubes(C)** | **Number Of Square Faces(S)** |
| *1* | ***1*** | ***1(4)+1(2)=6*** |
| *2* | ***4*** | ***2 (4)+4(2)=16*** |
| *3* | ***9*** | ***3(4)+9(2)=30*** |
| *4* | ***16*** | ***4(4)+16(2)=48*** |
| *5* | ***25*** | ***5(4)+25(2)=70*** |
| *10* | ***100*** | ***10(4)+100(2)=140*** |
| *20* | ***400*** | ***20(4)+400(2)=880*** |
| *n* | ***n2*** | ***n(4)+n2(2)=2n2+4n*** |

1. **a)Rule in words for finding the number of cubes for any figure number . *The number of cubes is equal to the square figure number .***

**b) Rule in words for finding the number of square faces for any figure number. *The number of square faces is equal to 2 times the square of the figure number plus 4 times the figure number.***

**IV . Rule in Symbols**

1. Rule for Connectors b) Rule for Straws

**C = n2 S = 2n2 + 4n**

1. Graph





