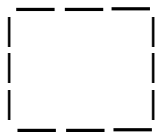
Patterns Investigations 2 Name_____

In this investigation, you will predict how many "sticks" would be needed to build a "train" based on the following patterns. You will record your data and plot the points to predict what will happen for the tenth figure, the one-hundredth figure, and for *any* figure.

Activity 1 Study the pattern to find the "zero" figure.

Figure 1 

Figure 2 

Figure 3 

x	*y*
Figure #	**# Sticks**
0	
1	**4**
2	
3	
4	
5	
10	

How many sticks would Figure 100 need?

What is the rule for finding the number of sticks for any figure?

Activity 2 Study the pattern to find the "zero" figure.

Figure 1 

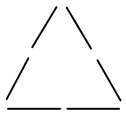
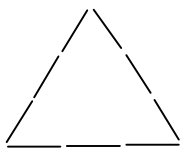
Figure 2 

Figure 3 

x	*y*
Figure #	**# Sticks**
0	
1	**3**
2	
3	
4	
5	
10	

What is the rule for finding the number of sticks for any figure?

Activity 3 Study the pattern to find the "zero" figure.

Figure 1 

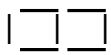
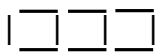
Figure 2 

Figure 3 

x	*y*
Figure #	**# Sticks**
0	
1	**4**
2	
3	
4	
5	
10	

How many sticks would Figure 100 need?

What is the rule for finding the number of sticks for *any* figure?

Activity 4 Study the pattern to find the "zero" figure.

Figure 1 

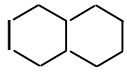
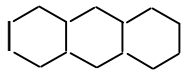
Figure 2 

Figure 3 

x	*y*
Figure #	**# Sticks**
0	
1	**6**
2	
3	
4	
5	
10	

What is the rule for finding the number of sticks for *any* figure?