

**Problem 1.3****Part A**

1.

Beam Length	1	2	3	4	5	6	7	8
Number of rods	3	7					27	

2.

3. As the beam length increases, the number of rods changes by

\_\_\_\_\_

4. You can see this pattern in the table by \_\_\_\_\_

You can see this pattern in the graph because \_\_\_\_\_

5. A beam of length 50 feet would have \_\_\_\_\_ steel rods.

**Part B**

1.

Number of Steps	1	2	3	4	5	6	7	8
Number of Rods	4	10	18					

2.

3. As the number of steps increase, the number of rods change by \_\_\_\_\_

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4. You can see this pattern in the table by \_\_\_\_\_

You can see this pattern in the graph because \_\_\_\_\_

5. A staircase with 12 steps would have \_\_\_\_\_ steel rods.

### **Part C**

The pattern in A is similar to the pattern in B

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The pattern in A is different from the pattern in B

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### **Part D**

The beam and bridge-thickness relationships are both \_\_\_\_\_

The bridge-length and staircase relationships are both \_\_\_\_\_

**Part C**

Is the relationship between bridge thickness and breaking weight linear or non-linear?

In the table you can see this because \_\_\_\_\_

In the graph you can tell because \_\_\_\_\_

**Part D**

Thinking with Mathematical Models

Bridge Length	Number of coins
3	
5	
10	
12	

**Part E**

The bridge thickness and length experiments are the same because

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The bridge thickness and length experiments are different because

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