Making Sense of Patterns Guided Lesson Explanation

1) Step 1: Determine the difference between each input and output value.

Input (a)	17	36	45	68	78
Output (b)	16	35	44	67	77
Difference	-1	-1	-1	-1	-1

Step 2: Write the difference between the input and output as a math sentence.

a) The sentence would follow the format:

Input (Difference) = Output

b) Now substitute in the variables and values we have found into that format:

a – 1 = b

2) **Find the difference between each successive value in the pattern:**

63,   55,   47,   39,   31

   -8   -8   -8   -8

We can see that each value is 8 less the previous number the math rule would therefore be -8.

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3) The math rule that we are presented with is: multiply by 2 and add 4.

To write this as a math rule where (a) is your starting value:

(a ● 2) + 4 = end value

If we apply this rule to the starting number 6, we can find all the values:

Value 2 = (6 ● 2) + 4 = 16

Value 3 (Given) = (16 ● 2) + 4 = 36

Value 4 = (36 ● 2) + 4 = 76

Value 5 (Given) = (76 ● 2) + 4 = 156

The final pattern would be written as: 6, 16, 36, 76, 156