Name _____ Date _____

Master 1.16

Extra Practice 1

Lesson 1: Number Patterns and Pattern Rules

1. Find each pattern rule. Write the next 4 terms for each pattern.

a) 23, 46, 69, 92, ____, ____, ____, ____
Rule:

b) 107, 100, 93, 86, ____, ____, ____, ____
Rule:

c) 42, 44, 50, 52, 58, ____, ____, ____, ____
Rule:

2. Find each missing term.

a) 54, 108, ____, 216, 270

b) 499, 398, 297, ____, 95

c) 2112, 4224, ____, 8448

Lesson 2: Creating Number Patterns

1. For this Input/Output table:

- Identify the operation and number in the machine.
- Complete the table.
- Write the pattern rule for the input numbers.
- Write the pattern rule for the output numbers.

Input	Output
3	18
6	21
9	24
12	27

2. For this Input/Output table:

- Identify the operation and number in the machine.
- Write the pattern rule for the input numbers.
- Write the pattern rule for the output numbers.

Input	Output
39	13
30	10
21	7
12	4

Lesson 3: Modelling Patterns

1. Here is a pattern of figures made with squares.

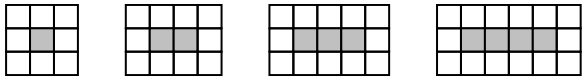

Figure 1 Figure 2 Figure 3 Figure 4

a) Complete the table.

Figure	Number of Grey Squares	Number of White Squares
1	1	8
2		
3		
4		

b) How many white squares will there be in the figure with 10 grey squares?

Lesson 4: Using Patterns to Solve Problems

1. Norseman Elementary School has a "Guess how many jelly beans in the jar" contest to raise money for a local charity. The students charge 50¢ for each guess.

a) Complete the table.

Number of Guesses	Money Collected ($)
50	
100	
150	
200	
250	

b) How much money will be collected if 500 guesses are sold?

c) How many guesses have to be sold to collect $450?

d) Write a problem you could solve using this table. Solve your problem.

Lesson 5: Strategies Toolkit – Use a Pattern

Ben made an Input/Output machine that uses two operations.
Here is a table for Ben's machine.
What does Ben's machine do to each input number?

Input	Output
1	2
2	5
3	8
4	11
5	14

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Sample Answers

Extra Practice 1 – Master 1.16

Lesson 1

1. a) 115, 138, 161, 184; Start at 23.
Add 23 each time.
b) 79, 72, 65, 58; Start at 107.
Subtract 7 each time.
c) 60, 66, 68, 74; Start at 42.
Alternately add 2, then add 6.

2. a) 162 **b)** 196 **c)** 6336

Lesson 2

1. +15
Input numbers: Start at 3. Add 3 each time.
Output numbers: Start at 18. Add 3 each time.

Input	*Output*
3	18
6	21
9	24
12	27
15	30
18	33
21	36

2. ÷ 3
Input numbers: Start at 39.
Subtract 9 each time.
Output numbers: Start at 13.
Subtract 3 each time.

Lesson 3

1.a)

Figure	Number of Grey Squares	Number of White Squares
1	1	8
2	2	10
3	3	12
4	4	14

b) 26

Lesson 4

1.a)

Number of Guesses	Money Collected ($)
50	25
100	50
150	75
200	100
250	125

b) $250 **c)** 900
d) I want to collect $350. How many guesses do I need to sell? Answer: 700 guesses