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

Date

_____   _____

Master 1.17   # Extra Practice 2

Lesson 3: Modelling Patterns

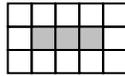**1.** Here is a pattern of figures made with squares.
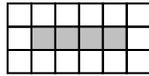
Figure 1 Figure 2   Figure 3   Figure 4

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.

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

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

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

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

Master 1.6   **Additional Activity 1: What's Next?**

Work on your own.

Write the next three terms in each pattern. Write each pattern rule.

 ➤ 4, 24, 14, 34, 24, ____, ____, ____

   Rule:

 ➤ 88, 77, 87, 76, 86, ____, ____, ____

   Rule:

 ➤ 4, 20, 10, 50, 40, ____, ____, ____

   Rule:

What is the 8th term in each pattern? Write each pattern rule.

 ➤ 144, 132, 120, 108, …

   Rule:

 ➤ 166, 177, 188, 199, …

   Rule:

Take It Further: Write two different patterns that begin: 10, 20, 40, …

For each pattern, list the next 3 terms and write the pattern rule.

Master 1.7 **Additional Activity 2: Patterns with Eleven**

Work with a partner.

You will need a calculator.

Each product below has one factor of 11.

 ➤ Find each product.

   $14 \times 11 =$

   $26 \times 11 =$

   $45 \times 11 =$

   $53 \times 11 =$

What patterns do you see in the products?
Write a rule for finding the product of a two-digit number and 11.

 ➤ Use your rule to predict these products.

   $16 \times 11 =$

   $23 \times 11 =$

   $81 \times 11 =$

   $33 \times 11 =$

 ➤ Are there any 2-digit numbers for which your rule does not apply? Make up
   your own multiplication statements to find out.

Take It Further: Find these products.
How are these statements different from those above?

$56 \times 11 =$
$83 \times 11 =$

Does your rule for multiplying by 11 still work?

Additional Activity 3: What's Missing?

Work on your own. Find the missing numbers.

Write a rule for each table. Your rule must explain what you do to the input number to get the output number.

1.

Input	Output
2	6
	12
6	
8	24
10	

Rule:

2.

Input	Output
30	6
25	
	4
15	3
10	

Rule:

3.

Input	Output
35	
13	0
27	
	35
74	61

Rule:

Take It Further: Create two different Input/Output tables with missing numbers.

Trade tables with a classmate.
Complete your classmate's tables.

Master 1.9 **Additional Activity 4: Perimeter Patterns**

Work with a partner.

Use Colour Tiles or grid paper.

Step 1

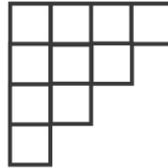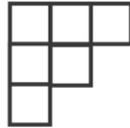Build these 4 figures of a growing pattern.

Figure 1   Figure 2   Figure 3   Figure 4

Step 2

Find the perimeter of each figure.

Record your results in the table.

Predict the perimeter of the

5th figure and the 6th figure.

Build the figures to check.

Write a pattern rule for the perimeters.

Figure	Perimeter
1	
2	
3	
4	
5	
6	

Take It Further:

Use Colour Tiles to create your own growing pattern.

Make the first 4 figures.

Trade patterns with your partner.

Repeat Step 2 above for your partner's pattern.