

# Patterns, Sequences

## Long-Term Memory Review – Grade 6

### Review 1

- Describe the following pattern as you move from one term to the next:  
1, 3, 5, 7, ...
- When defining a number sequence (pattern) it is common that you would look for a \_\_\_\_\_ to apply when looking for any term in the sequence.
- Keith created a number sequence as shown at the right.

<i>Term(n)</i>	1	2	3	4
<i>Value</i>	2	4	6	8

What rule explains Keith's number sequence? \_\_\_\_\_

- The number sentence  $y = x + 1$  was used to create the table at the right. What is the value of  $y$  when  $x = 8$ ?

$x$	$y$
2	3
4	5
6	7
8	

- A) 6                      B) 9                      C) 10                      D) 11

# Patterns, Sequences

## Long-Term Memory Review – Grade 6 Review 2

- Describe the following pattern as you move from one term to the next:  
3, 9, 27, 81, ....
- When defining a number sequence \_\_\_\_\_ it is common that you would look for a rule to apply when looking for any term in the sequence.

- Kerry created a number sequence as shown at the right.

<i>Term(n)</i>	2	4	6	8
<i>Value</i>	10	20	30	

Complete the chart and state what rule explains Kerry's number sequence? \_\_\_\_\_

- The number sentence  $y = x + 5$  was used to create the table at the right.  
What is the value of  $y$  when  $x = 12$ ?

$x$	$y$
6	11
8	13
10	15
12	

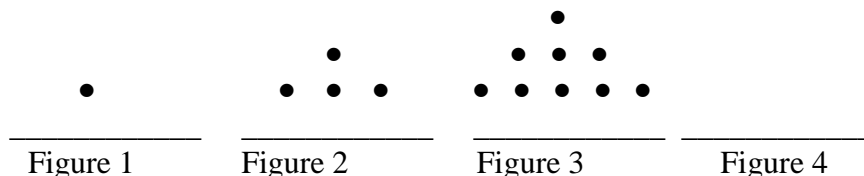
- A) 17      B) 24      C) 30      D) 60

- Lyle charges \$8 per hour for mowing lawns. Make a chart to show how much money Lyle earns each day for mowing 2 hours the first day, 4 hours the second day, and 6 hours the third day.  
Let  $H$  = the number of hours and  $T$  = total amount of money earned.

H	2	4	6	...	10
T				...	

How much will he earn for 10 hours of mowing lawns? \_\_\_\_\_

- How many dots will be in the next figure? Draw the figure and explain how you arrived at this answer.



Explanation: \_\_\_\_\_

# Patterns, Sequences

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## Review 3

- Describe the following pattern as you move from one term to the next:  
11, 13, 15, 17, .....
- When defining a number sequence (pattern) it is common that you would look for a rule to apply when looking for any \_\_\_\_\_ in the sequence.
- Karen created a number sequence as shown at the right.

<i>n</i>	3	5	6	10
<i>Value</i>	5	7	8	

Complete the table and write the rule for the number sequence? \_\_\_\_\_

- Gloria created a number pattern following the rule of  $2x + 5$ .  
The table at the right shows 3 samples from her number pattern.  
What is the value of *y* when  $x = 15$ ?

<i>x</i>	<i>y</i>
4	13
7	19
12	29
15	

- A) 22                      B) 30                      C) 35                      D) 44
- Tammy charges \$4 per hour for babysitting. Make a chart to show how much money Tammy earns for babysitting 1, 2, 3, 4, and 5 hours.  
Let H = the number of hours and  
T = total amount of money earned.

H	1	2	3	4	5	...	8
T						...	

How much will she earn for 8 hours of baby-sitting? \_\_\_\_\_

- Draw a pattern of dots where Figure 1 has 2 dots, Figure 2 has 4 dots, Figure 3 has 6 dots, and Figure 4 has 8 dots. If the pattern continues, then draw and state the number of dots in Figure 5.

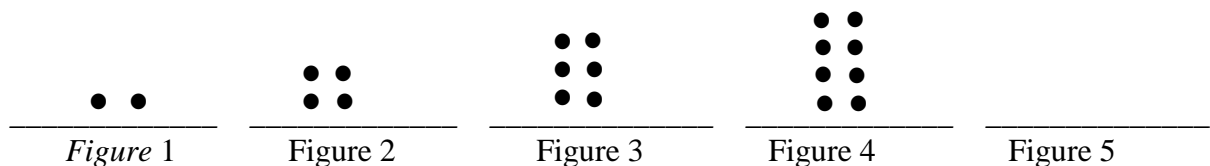


Figure 5 has \_\_\_\_\_ dots.

# Patterns, Sequences

## Long-Term Memory Review – Grade 6 Review 4

- Describe the following pattern as you move from one term to the next:  
13, 26, 52, 104, ....
- When defining a number \_\_\_\_\_ (pattern) it is common that you would look for a rule to apply when looking for any term in the sequence.

- Kim created a number sequence as shown at the right.

<i>n</i>	5	8		12	15
<i>Value</i>	10		22		30

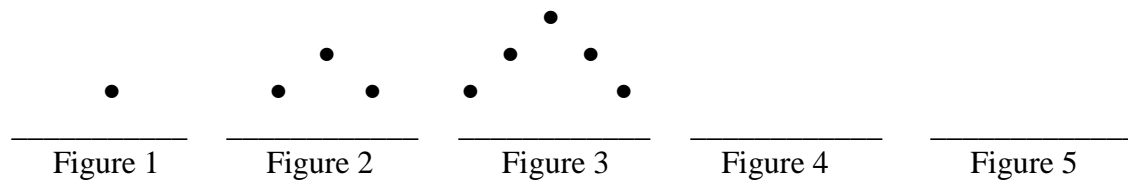
Complete the table and write the rule for the number sequence. \_\_\_\_\_

- Maggie created a pattern showing square numbers beginning with 1. 1, 4, 9, 16, \_\_\_\_\_, 36, 49.  
A) 21                      B) 25                      C) 32                      D) 35
- Lyle charges \$7 per hour for mowing lawns, Make a chart to show how much money Lyle earns each day for mowing 3 hours the first day, 4 hours the second day, and 5 hours the third day.  
Let H = the number of hours and T = total amount of money earned.

H	3	4	5	...	10
T				...	

How much will he earn for 10 hours of mowing lawns? \_\_\_\_\_

- How many dots will be in each of the next two figures?  
Draw the figures and explain how you arrived at these answers.



Explanation: \_\_\_\_\_  
\_\_\_\_\_

# Patterns, Sequences

Long-Term Memory Review – Grade 6

## Quiz

1. Describe the following pattern as you move from one term to the next:  
3, 6, 9, 12, .....

2. When defining a number sequence (pattern) it is common that you would look for a \_\_\_\_\_ to apply when looking for any term in the sequence.

3. Ken created a number sequence as shown at the right.

<i>n</i>	3	5	7	9
<i>Value</i>	12	20	28	36

What rule explains Ken's number sequence? \_\_\_\_\_

4. The number sentence  $y = x + 5$  was used to create the table at the right.  
What is the value of  $y$  when  $x = 12$ ?

<i>x</i>	<i>y</i>
6	11
8	13
10	15
12	

- A) 17                      B) 24                      C) 30                      D) 60

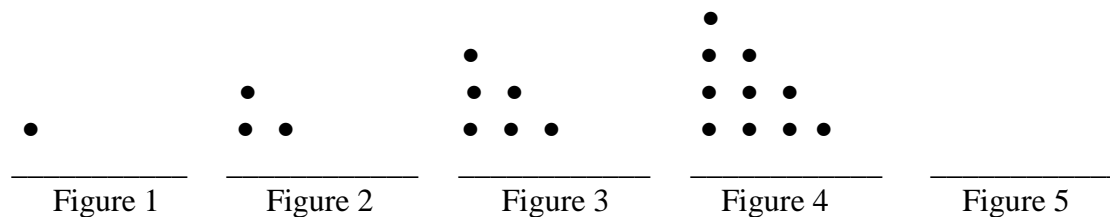
5. Tammy charges \$3 per hour for babysitting. Make a chart to show how much money Tammy earns for babysitting 1, 2, 3, 4, and 5 hours.

Let  $H$  = the number of hours and  
 $T$  = total amount of money earned.

H	1	2	3	4	5	....	8
T						....	

How much will she earn for 8 hours of babysitting? \_\_\_\_\_

6. How many dots will be in the next figure? Draw the figure and explain how you arrived at this answer.



Explanation: \_\_\_\_\_

# Patterns, Sequences

Long-Term Memory Review – Grade 6

## ANSWERS

### Review 1 Answers

- 1) Add 2 to the previous term
- 2) Rule
- 3)  $N \times 2$  or  $2N$
- 4) B. 9

### Review 2 Answers

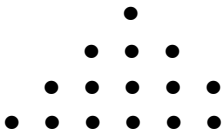
- 1) Multiply the previous term by 3
- 2) pattern
- 3) 40;  $N \times 5$  or  $5N$
- 4) A. 17

- 5)
 

H	2	4	6	...	10
\$	16	32	48	...	80

 ; \$80

- 6)
 



•  
• • •  
• • • • •  
• • • • • • •

 ; each row has 2 more than the one above  
 Figure 4

### Review 3 Answers

- 1) Add 2 to the previous term
- 2) term
- 3) 12 ;  $N + 2$
- 4) C. 35

- 5)
 

H	1	2	3	4	5	....	8
\$	4	8	12	16	20	....	32

 ; \$32

- 6) Answers may vary
 

Figure 1  
(2 dots)




Figure 2  
(4 dots)




Figure 3  
(6 dots)




Figure 4  
(8 dots)

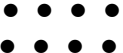


Figure 5  
(10 dots)




Figure 5 has 10 dots.

# Patterns, Sequences

Long-Term Memory Review – Grade 6

## Review 4 Answers

1) Multiply the previous term by 2

2) Sequence

N	5	8	11	12	15	; $N \times 2$ or $2N$
#	10	16	22	24	30	

4) B. 25

H	3	4	5	...	10	; \$70
\$	21	28	35	...	70	

6)

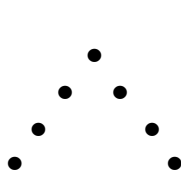


Figure 4  
( 7 dots)

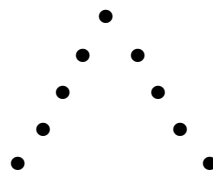


Figure 5  
( 9 dots)

; each figure has 2 more dots than the previous figure.

## Quiz- Answers

1) Add 3 to the previous term

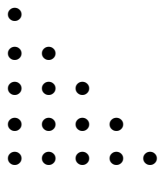
2) rule

3)  $N \times 4$  or  $4N$

4) A. 17

H	1	2	3	4	5	....	8	; \$24
\$	3	6	9	12	15	...	24	

6)



; each figure number determines how many dots

Figure 5 are on each leg of the right triangle. The rule is  $\frac{n^2 + n}{2}$