MATH

Pattern rules



Name _____ Date _____

🎯 **I can make a pattern from a rule and describe its features.**

1 How it works 💡

A rule like "start at 3, add 4" makes the pattern 3, 7, 11, 15, 19. You can notice features the rule does not say: here every number is odd, because adding an even number to an odd number always gives an odd number. Two patterns can also be compared.

Start at 3. Add 4.

3	7	11	15	19

All odd: odd + even = odd

2 Use the rule. Write the first 6 numbers.

1. Start at 6. Add 7.	6					
2. Start at 1. Add 5.	1					
3. Start at 6. Add 6.	6					
4. Start at 8. Add 6.	8					
5. Start at 7. Add 7.	7					
6. Start at 2. Add 2.	2					

How did I do? ☆ ☆ ☆

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Describe the pattern

Name _____ Date _____

I can describe features of a pattern.

1 Write the numbers, then answer

Look at odd and even numbers.

Start at 3. Add 5.

3				

The numbers are **all odd** **all even** **odd and even**

The 10th number is ____

Start at 3. Add 6.

3				

The numbers are **all odd** **all even** **odd and even**

The 10th number is ____

Start at 7. Add 10.

7				

The numbers are **all odd** **all even** **odd and even**

The 10th number is ____

Start at 0. Add 4.

0				

The numbers are **all odd** **all even** **odd and even**

The 10th number is ____

How did I do? ☆ ☆ ☆

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Think deeper

Name _____ Date _____

I can explain and predict a pattern.

1 Two patterns side by side

Fill both rows. Then compare.

A: start at 0, add 2	0	2				
B: start at 0, add 4	0	4				

Each number in B is ____ times the number in A.

A: start at 0, add 3	0	3				
B: start at 0, add 6	0	6				

Each number in B is ____ times the number in A.

A: start at 0, add 5	0	5				
B: start at 0, add 10	0	10				

Each number in B is ____ times the number in A.

2 Think about it

1. Start at 2 and add 2. Can you get an odd number? _____
2. Start at 5 and add 5. What is the 10th number? _____
3. Start at 3 and add 2. Why is every number odd? _____

How did I do? ☆ ☆ ☆

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Word problems

Name _____ Date _____

I can use a pattern to solve a problem.

1 Read, find the pattern, solve

Make a table or draw if it helps.

1 Start at 1 and add 4. Write the first 5 numbers. Are they odd or even?

Answer:

2 Mia starts at 6 and adds 6. Is the 8th number 48?

Answer:

3 Pattern A starts at 0 and adds 2. Pattern B starts at 0 and adds 4. How do the numbers compare?

Answer:

4 Sam starts at 50 and subtracts 7 each time. What is the 5th number?

Answer:

How did I do?

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FOR TEACHERS AND PARENTS

Answer key: pattern rules

1 Page 1

Numbers: 1) 6, 13, 20, 27, 34, 41; 2) 1, 6, 11, 16, 21, 26; 3) 6, 12, 18, 24, 30, 36; 4) 8, 14, 20, 26, 32, 38; 5) 7, 14, 21, 28, 35, 42; 6) 2, 4, 6, 8, 10, 12.

2 Page 2

1) 3, 8, 13, 18, 23; odd and even; 10th number 48
2) 3, 9, 15, 21, 27; all odd; 10th number 57
3) 7, 17, 27, 37, 47; all odd; 10th number 97
4) 0, 4, 8, 12, 16; all even; 10th number 36

3 Page 3

1) A: 0, 2, 4, 6, 8, 10; B: 0, 4, 8, 12, 16, 20; 2 times.
2) A: 0, 3, 6, 9, 12, 15; B: 0, 6, 12, 18, 24, 30; 2 times.
3) A: 0, 5, 10, 15, 20, 25; B: 0, 10, 20, 30, 40, 50; 2 times.
Think: 1) No: even + even is even; 2) 50; 3) Odd + even is always odd.

4 Page 4: word problems

1) 1, 5, 9, 13, 17: all odd
2) Yes. The numbers are 6 × 1, 6 × 2, ..., so the 8th is 6 × 8 = 48.
3) Each number in B is 2 times the number in A.
4) 50, 43, 36, 29, 22: the 5th number is 22

5 Teaching tip 💡

After children write a pattern, ask "what do you notice?" Odd and even, ones digits that repeat and numbers that double are all good answers. Noticing is the skill this standard builds.

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