

Multiplication Patterns

Directions: Use the multiplication table to answer the questions and complete the patterns below.

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

1. Highlight the row that shows multiples of **six** in yellow.

What do you notice?

All of the numbers are even; the ones place has a pattern: 6, 2, 8, 4, 0...

Complete the pattern: 66, 72, 78, 84

2. Highlight the row that shows multiples of **nine** in pink.

What do you notice? The numbers alternate between odd and even; as the numbers increase in value, the ones place counts down from 9.

Complete the pattern: 99, 108, 117, 126

3. Highlight the row that shows multiples of **eleven** in green.

What do you notice?

The tens and ones places are the same digit until 99; in numbers over 100, the digits in the hundreds + ones place add up to equal the digit in the tens place (i.e. 132 \rightarrow 1+2=3); the tens place and one's place each increase by one.

Complete the pattern: 121, 132, 143, 154

4. Use the multiplication table to complete the patterns.

56, 64, 72, 80, 88, 96, 104, 112

36, 48, 60, 72, 84, 96, 108

28, 32, 36, 40, 44, 48, 52

28, 35, 42, 49, 56, 63, 70, 77

Think about it!

How can patterns help you master multiplication? Give some examples!

POSSIBLE ANSWERS:

Knowing patterns can help you check your answer. For example, if you multiply a number by 6, and the answer is an odd number, you would know it was the wrong answer.

Knowing patterns can help you figure out what comes next when counting by or multiplying by a number. For example, if you were counting by 11, you would know that the next number in the sequence should have a digit that is greater by one in both the tens and ones places.