Grade 6

Name: _____

NUMBER SENSE & NUMERATION: FACTORS & MULTIPLES

Factors	When a whole number is divided by one of its factors, the remainder will be zero. E.g. 2, 4 and 12 **are** factors of 12. 5, 9 and 24 **are not** factors of 12.

1. List all the factors of each number. The first one has been done for you.

a) 8: 1, 2, 4, 8 ____   b) 15: _____   c) 72: _____

d) 55: _____   e) 16: _____   f) 63: _____

2. Complete the table below. Determine the greatest common factor (GCF) for each pair of numbers. The first row has been done for you.

First Number	Second Number	Factors of the First Number	Factors of the Second Number	Common Factors	GCF
16	40	1, 2, 4, 8, 16	1, 2, 4, 5, 8, 10, 20, 40	1, 2, 4, 8	8
12	30				
35	18				
64	32				
23	19				
24	60				

3. In the chart below, Mary has stated the **wrong** GCF for each pair of numbers. Please explain each of her mistakes and find the correct answer. The first one has been done for you.

Mary's GCD of:	28 and 49 is 14.	48 and 36 is 8	24 and 36 is 6	72 and 35 is 3	56 and 28 is 14
Explain her mistakes	14 is not a factor of 49				
Correct GCD	7				

4. Determine the greatest common factor (GCF) of each of the following pairs of numbers.

a) 7 and 9 _____   b) 14 and 49 _____   c) 48 and 56 _____

5. Complete the chart below. The first two rows have been done for you.

Multiples of	Process	Result
3	1×3, 2×3, 3×3, 4×3, …	3, 6, 9, 12, …
7	1×7, 2×7, 3×7, 4×7, …	7, 14, 21, 28, …
10	1×10, 2×10, 3×10, 4×10, …	
11		11, 22, 33, 44, …
		15, 30, 45, 60, …
17		
N	1×N, 2×N, 3×N, 4×N, …	N, 2N, 3N, 4N, …

Multiples
The multiples of a whole number, N, are the products of any other whole number and N. In other words, the multiples of N are 1N, 2N, 3N, 4N, …

Expectation: identify and determine the characteristics of multiples and factors.

6. List the first three multiples of:

   a) 9: _____   b) 13: _____   c) 21: _____   d) 33: _____

7. Circle each multiple of 6. Put a square around each multiple of 4. List five common multiples of 4 and 6.

   30   44   48   18   2   72   12   64   56   60   21   36   ___, ___, ___, ___, ___

8. Complete the following chart. List enough multiples of each number to obtain at least three common multiples. Then, write the **least** common multiple (LCM). The first row has been done for you.

First Number	Second Number	Multiples of First Number	Multiples of Second Number	Common Multiples	LCM
3	5	3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45	5, 10, 15, 20, 25, 30, 35, 40, 45,	15, 30, 45	15
9	6				
8	12				
10	15				

TRY THIS!

a) Colour all those squares black that are **factors** of 100.
b) Colour all those squares green that are **multiples** of 7.
c) Colour all those squares yellow that are **multiples** of 9 or **multiples** of 11.
d) Colour all those squares red that are **multiples** of 12 or **factors** of 60.

What do you see?

_____

13	31	17	19	23	51	40	34	47	12	24	34	32	41	40	13	19	17	17	39
52	34	29	13	34	29	13	46	48	9	27	12	29	17	39	13	34	26	16	41
19	17	39	16	17	39	16	24	27	45	90	9	48	16	41	16	17	17	19	52
13	16	41	47	26	13	16	12	81	54	27	45	96	13	16	40	39	29	13	46
34	23	34	51	19	34	23	48	18	9	45	27	12	34	23	52	38	47	19	38
32	41	13	32	30	15	30	96	45	81	18	90	48	3	6	30	13	53	37	19
13	23	31	6	11	66	33	6	12	90	9	24	30	88	66	55	6	16	41	47
16	26	3	44	22	88	11	33	3	100	25	3	11	44	33	22	11	3	13	16
47	13	6	22	33	66	88	22	30	50	100	6	88	33	22	55	33	30	34	23
17	39	13	15	22	44	33	6	12	9	90	24	3	11	33	88	15	13	17	32
16	41	52	34	3	30	15	24	18	81	45	54	12	15	30	6	26	52	16	31
7	14	13	16	16	41	47	12	27	9	81	45	24	17	39	17	19	19	21	7
21	28	56	19	13	17	39	48	54	90	54	90	48	16	41	29	13	56	14	35
46	70	42	14	51	16	41	96	81	9	27	9	96	51	32	34	49	70	21	29
51	21	49	21	42	52	13	34	12	45	81	12	16	41	47	7	56	35	70	26
19	17	7	14	7	56	16	17	43	24	48	13	17	13	14	21	14	56	16	19
13	16	21	28	49	70	35	47	41	100	25	52	19	42	70	7	49	21	13	13
34	23	26	35	7	14	7	56	19	25	100	19	70	70	7	35	14	13	34	52
32	41	52	42	70	21	42	14	7	50	50	49	56	14	49	56	35	16	17	43
13	16	17	53	49	28	7	49	35	25	100	7	21	42	7	70	16	41	47	51

Expectation: identify and determine the characteristics of multiples and factors.