

## WORKSHEET 2 NUMBER THEORY – CHAPTER 8

WHAT DID THE EGG SAY TO THE WHISK?



1 Write down the next three numbers in these patterns.

- (a)  $-4, -5, -6, -7, \dots$                       (b)  $24, 20, 16, 12, \dots$

2 Write down the next two numbers in these patterns.

- (a)  $6, 9, 12, 15, \dots$                       (b)  $1, 3, 6, 10, \dots$

3 State whether the following is **odd or even**.

- (a) sum of two even numbers  
(b) difference between two odd numbers  
(c) difference between two even numbers  
(d) difference between an even and an odd number

4 (a) List the first three square numbers

(b) List the first three triangular numbers

(c) List the first three pentagonal numbers

5 Complete to make each sentence a true one.

(a)  $5 \times (400 + 7) = \Delta \times 400 + \Delta \times 7$

(b)  $7 \times (800 - 2) = \Delta \times 800 - \Delta \times 2$

(c)  $6 \times 698 = 6 \times 700 - 6 \times \Delta$

6 List all the factors of:

- (a) 12                      (b) 20                      (c) 24

7 Complete these tables and find the highest common factor (HCF).

(a)

Number	Factors
12	
24	

(b)

Number	Factors
48	
36	

8 Complete these tables and find the lowest common multiple (LCM)

(a)

Numbers	Multiples
7	
3	

(b)

Numbers	Multiples
8	
6	

9 Find the highest common factor of:

- (a) 36 and 48                      (b) 60 and 75                      (c) 70 and 98

10 Find the lowest common multiple of:

- (a) 10 and 8                      (b) 12 and 9                      (c) 20 and 16

11 (a) Write down all the primes (excluding one) that are less than ten.

(b) Write down all the composite numbers between 10 and 20.

(c) Write down the multiples of three between 30 and 40.

12 Find the simplest answer for:

- (a)  $\sqrt{36}$                       (b)  $\sqrt{(5 \times 13) \times (5 \times 13)}$                       (c)  $\sqrt{2 \times 2 \times 5 \times 2 \times 2 \times 5}$

- 13 (a)  $\sqrt[3]{8}$                       (b)  $\sqrt[3]{7 \times 7 \times 7}$                       (c)  $\sqrt[3]{2 \times 2 \times 2 \times 5 \times 5 \times 5}$

14 List the six numbers of the Fibonacci sequence

15 Using the divisibility tests answer the following:

(a) Is 2231 divisible by 2?

(b) Is 9735 divisible by 3?

16 (a) Is 3924 divisible by 4?

(b) Is 955 divisible by 5?

17 (a) Is 4362 divisible by 6?

(b) Is 4216 divisible by 8?

18 (a) Is 9730 divisible by 10?

(b) Is 725 divisible by 25?

Answers:

A	A	B	E	E	E	H	I
21	40	-8, -9, -10	5	12	Yes	No	Even
24	72	8, 4, 0	800	12	yes	yes	even
	80		2				even
							odd

I	K	M	N	N	N	O	T
1, 1, 2	2, 3, 4, 6, 12	2, 3, 5, 7	18, 21	6	Yes	Yes	1, 4, 9
3, 5, 8	2, 4, 5, 10, 20	12, 14, 16, 18	15, 21	65	yes	yes	1, 3, 6
	2, 3, 4, 6, 8, 12, 24,	33, 36, 39		20			1, 5, 12

W	W
12	2
15	7
14	10

3      6    12   16   13      9    15   17   18      14    10   11

1    7    8    4    5    2