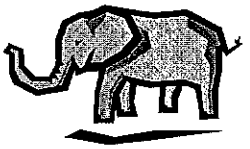
WORKSHEET 1 NUMBER THEORY --CHAPTER 8

WHAT TIME IS IT WHEN AN ELEPHANT SITS ON THE FENCE?



1 Write the next term for these number patterns

(a) 11, 13, 15, ... (b) –14, -12, -10, ... (c) 32, 16, 8, ...

(d) 1, 3, 6, 10, ... (e) 2, 5, 11, 23, ... (f) 1, 4, 9, ...

2 (a) What is the next even number after 36?

(b) What is the odd number before 71?

3 State whether the following is odd or even.

(a) The product of 3 odd numbers.

(b) The difference between 2 even numbers.

4 List all the factors of:

(a) 24 (b) 36

5 List all the multiples of 3 between 20 and 30.

6 Find the HCF (highest common factor) of

(a) 27 and 81 (b) 36 and 60

7 Find the LCM (lowest common multiple) of

(a) 12 and 18 (b) 8 and 12

8 Write as a numeral.

(a) $(6 \times 10^3) + (9 \times 10^2) + (2 \times 10) + (7 \times 1)$

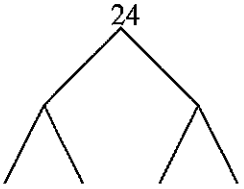
(b) $(5 \times 10^4) + (9 \times 10^2) + (8 \times 1)$

9 Write the basic numeral for:

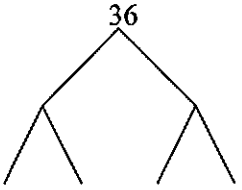
(a) 7^2 (b) 3^3 (c) 10^4

10 Complete these factor trees.

(a) 24



(b) 36



11 Use a factor tree to find the prime factors of 72

12 Use the repeated division method to write 240 as a product of its prime factors.

13 Find these square and cube roots without a calculator

(a) $\sqrt{1225}$ (b) $\sqrt{784}$ (c) $\sqrt[3]{729}$ (d) $\sqrt[3]{1728}$

14 (a) Write 30 as a sum of 2 primes.

(b) Find all the primes between 20 and 30.
(c) Find the largest twin prime less than 20.

15 Find the HCF of:
(a) 75 and 225 (b) 48 and 156

16 Find the LCM of:
(a) 12 and 15 (b) 36 and 44

17 Using the divisibility rules:
(a) Is 920 divisible by 2? (b) Is 543 divisible by 3?
(c) Is 316 divisible by 4? (d) Is 765 divisible by 5?

18 Using the divisibility rules:
(a) Is 4254 divisible by 6? (b) Is 36408 divisible by 8?
(c) Is 8836 divisible by 9? (d) Is 10475 divisible by 10?

Answers:

A	C	E	E	E	E	E	F
Yes, yes Yes, yes	27 12	38 69	36 24	49 27 10000	35, 28 9, 12	23, 7 23, 29 19	2, 3, 4 6, 8, 12 24

G	I	M	N	N	O	T	T
25, 12	21, 24	$2^3 \times 5 \times 6$	Odd even	Yes, yes No, no	60 396	6927 50908	$2^3 \times 3$ $2^2 \times 3^2$

T	W
$2^3 \times 3^2$	17, -8 4, 15 47, 16

8	5	12	13	10	16	15	14	11	17	18	7	1	4	9	3	6	2