

8. Highest common factor  
 9. Lowest common multiple (LCM) is numbers.

## REVIEW EXERCISES

### MULTIPLE CHOICE QUESTIONS

- Which of the following numbers is a perfect number?  
 (a) 2 (b) 4 (c) 6 (d) 8
- Which of the following numbers is divisible by 4?  
 (a) 25,13,784 (b) 18,20,741 (c) 70,12,345 (d) 68,54,321
- What is the least value of \* so that the number  $9274*5$  is divisible by 9?  
 (a) 0 (b) 3 (c) 4 (d) 9
- The number divisible by 11 is:  
 (a) 11,11,111 (b) 22,222 (c) 3,33,33,333 (d) 44,44,444
- If  $25*215$  is divisible by 3, then \* can take the value:  
 (a) 1 (b) 3 (c) 4 (d) 5
- Seive of Eratosthenes is a method to find:  
 (a) perfect numbers (b) prime numbers (c) twin primes (d) co-primes

### SOLVE MENTALLY

#### True or False

- A number divisible by 3 is also divisible by 6.
- The numbers 8 and 9 are factors of 72.
- Two consecutive prime numbers which are odd are called twin primes.
- There is only one composite number between two primes.
- Two numbers forming a twin prime are consecutive odd numbers.
- There is only one composite number between twin primes.
- Two co-prime numbers are always prime.

#### Fill in the Blanks

- A number is called \_\_\_\_\_ if the sum of its factors, except itself, is greater than the number.

- The number 17 and \_\_\_\_\_ forms a pair of twin primes.
- There are \_\_\_\_\_ pairs of twin primes in the first 100 natural numbers.
- A number is divisible by \_\_\_\_\_ if the number formed by its last two digits is divisible by it.
- Two prime numbers are called \_\_\_\_\_ primes of  $n$  if their average is  $n$ .

**Answer in One Word or a Line**

- What are the first three multiples of 7?
- What is the smallest factor of 64?
- Which is the smallest odd prime number?
- Are two co-prime numbers always prime? Is the converse true?
- What is the LCM of two co-prime numbers  $a$  and  $b$ ?
- Which is greater, HCF or LCM of two numbers? Why?

**LET'S EVALUATE**

- Express each of the following numbers as the sum of three odd primes in two different ways:  
(a) 43                      (b) 61                      (c) 83
- Which of the following pairs of numbers are co-prime?  
(a) 16 and 23              (b) 27 and 36              (c) 25 and 64
- Write the greatest 3-digit number and express it in terms of its prime factors.
- Is the sum of any two prime numbers always even? Justify your answer with the help of examples.
- Using divisibility tests, determine which of the following numbers are divisible by 2, 3, 4, 5, 6, 8, 9, 10 and 11 (write Yes or No).

Number	Divisible by									
	2	3	4	5	6	8	9	10	11	
5,444										
67,859										
5,64,382										
9,00,001										
8,01,020										
8,43,264										

- The students of a class can be divided into groups of 2, 3, 5 or 6. What is the least number of children this class can have?
- Find the smallest 6-digit number, which is divisible by 12, 15 and 30.

**THINKING SKILLS**

- If a number is divisible by 2 and 4, is it also divisible by 8?
- Find two numbers whose LCM is 4 and sum is 5.
- Find the smallest number which on dividing by 6, 8 and 12 leaves the remainder 4, 6 and 10 respectively.
- Write all the factors of  $4^3$ ?

5. Find whether the product of three consecutive numbers is divisible by 6. Give reasons.  
 6. Complete the following table and find the relationship between HCF and LCM.

Numbers	HCF	LCM	HCF $\times$ LCM	Product of numbers
12, 18	.....	36	.....	216
15, 20	5	.....	.....	300
....., 124	.....	.....	12,152	.....

### VALUES AND LIFE SKILLS

Three persons step off together for a morning walk. Their steps measure 80 cm, 85 cm and 90 cm respectively. What is the minimum distance each person should walk so that all of them can cover that same distance in complete steps? Is morning walk good for health? Do you go for a morning walk?

### SOME NCERT TEXTBOOK QUESTIONS

1. Match the items in Column 1 with the items in Column 2.

#### Column 1

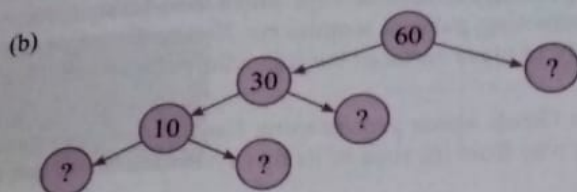
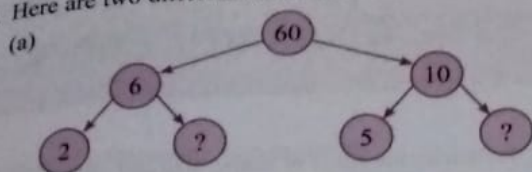
- (i) 35
- (ii) 15
- (iii) 16
- (iv) 20
- (v) 25

#### Column 2

- (a) Multiple of 8
- (b) Multiple of 7
- (c) Multiple of 70
- (d) Factor of 30
- (e) Factor of 50
- (f) Factor of 20

2. Find all the multiples of 9 upto 100.  
 3. The numbers 13 and 31 are prime numbers. Both these numbers have same digits 1 and 3. Find such pairs of prime numbers upto 100.  
 4. Write down separately the prime and composite numbers less than 20.  
 5. Express the following as the sum of two odd primes.  
 (a) 44                      (b) 36                      (c) 24                      (d) 18  
 6. Write the smallest digit and the greatest digit in the blank space of each of the following numbers so that the number formed is divisible by 3:  
 (a) \_\_\_ 6724              (b) 4765 \_\_\_ 2  
 7. Write a digit in the blank space of each of the following numbers so that the number formed is divisible by 11.  
 (a) 92 \_\_\_ 389            (b) 8 \_\_\_ 9484

8. Here are two different factor trees for 60. Write the missing numbers.



9. HCF of co-prime numbers 4 and 15 was found as follows by factorisation:

$4 = 2 \times 2$  and  $15 = 3 \times 5$  since there is no common prime factor, so HCF of 4 and 15 is 0. Is the answer correct? If not, what is the correct HCF?

10. The length, breadth and height of a room are 825 cm, 675 cm and 450 cm respectively. Find the longest tape which can measure the three dimensions of the room exactly.
11. Find the least number which when divided by 6, 15 and 18 leave remainder 5 in each case.

### EXEMPLAR PROBLEMS

- The number of distinct prime factors of the smallest 5-digit number is:
  - 2
  - 4
  - 6
  - 8
- The number  $7254*98$  is divisible by 22, the digit at \* is:
  - 1
  - 2
  - 6
  - 0
- A number is divisible by 5 and 6. It may not be divisible by:
  - 10
  - 15
  - 30
  - 60
- If LCM of two numbers is 180, then which of the following is not the HCF of the numbers?
  - 45
  - 60
  - 75
  - 90
- If a number divides three numbers exactly, it must divide their sum exactly. (True/False)
- If a number with three or more digits is divisible by 6, then the number formed by its last two digits (i.e., ones and tens) is also divisible by 6. (True/False)
- LCM of two or more numbers is divisible by their HCF. (True/False)
- A merchant has 120 L of oil of one kind, 180 L of another kind and 240 L of a third kind. He wants to sell the oil by filling the three kinds of oil in tins of equal capacity. What should be the greatest capacity of such a tin?
- Three brands A, B and C of biscuits are available in packets of 12, 15 and 21 biscuits respectively. If a shopkeeper wants to buy an equal number of biscuits, of each brand, what is the minimum number of packets of each brand, he should buy?