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India's Number 1 Education App

## MATHS

## BOOKS - NAND LAL PUBLICATION

## PLAYING WITH NUMBERS

## Solution Of Textual Questions Page 47

1. Try arranging 18 marbles in rows and find the
factors of 18

1 marble in each row.
2. Try arranging 18 marbles in rows and find the factors of 18

2 marbles in each row.

## (D) Watch Video Solution

3. Try arranging 18 marbles in rows anil find the
factors of 18

3 marbles in each row
4. Try arranging 18 marbles in rows anil find the
factors of 18

6 marbles in each row.

## D Watch Video Solution

## Solution Of Textual Questions Page 51

1. Is 15 a composite number? Why? What about

18? 25?
(D) Watch Video Solution

1. Observe that $2 \times 3+1=7$ is a prime number. Here 1 has been added to a multiple of 2 to get a prime number. Can you find some other numbers of this type.

## ( Watch Video Solution

2. Find the common factor of:

8, 20
3. Find the common factor of:

9,15

- Watch Video Solution

4. convert the next ratio to hundred $7 / 16$ ?
(D) Watch Video Solution
5. Write the prime factorization of $16,28,38$
6. Find H.C.F of :

## 24 and 36

## - Watch Video Solution

7. Find H.C.F of :

15,25 and 30.
(D) Watch Video Solution
8. Find H.C.F of :

8 and 12

- Watch Video Solution

9. Find H.C.F of :

12,16 and 28.
(D) Watch Video Solution

## Exercise 31

## 1. Write all the factors of the following number:

24

## (D) Watch Video Solution

2. Write all the factors of the following number :

15

- Watch Video Solution

3. Write all the factors of the following number :

21
4. Write all the factors of the following number :

27

## - Watch Video Solution

5. Write all the factors of the following number :

12

D Watch Video Solution
6. Write all the factors of the following number :

20

## (D) Watch Video Solution

7. Write all the factors of the following number :

18
(D) Watch Video Solution
8. Write all the factors of the following number :

23
9. Write first five multiples of :

5

- Watch Video Solution

10. Write first five multiples of:

8

- Watch Video Solution

11. Match the items in column 1 with the items in
column 2:
Column 1
Column 2
(i) 35
(a) Multiple of 8
(ii) 15
(iii) 16
(iv) 20
(v) 25
(b) Multiple of 7
(c) Multiple of 70
(d) Factor of 30
(e) Factor of 50
(f) Factor of 20

## D Watch Video Solution

## Exercise 32

# 1. What is the sum of any two Odd numbers ,Even 

 numbers?
## (D) Watch Video Solution

2. What is the sum of any two

Even numbers
(D) Watch Video Solution
3. State whether the followin statements are True
the sum of three odd numbers is even.

## (D) Watch Video Solution

4. State whether the following statements are True of False:

The sum of two odd numbers and one even numberis even.

## (D) Watch Video Solution

5. State whether the followin statements are True of False:

The product of three odd numbers is odd.

## D Watch Video Solution

6. State whether the followin statements are True of False:

If an even number is divided by 2,the quotient is always odd.

## - Watch Video Solution

7. 

State whether the following statements are True
or False:

All prime numbers are odd.

## D Watch Video Solution

8. State whether the followin statements are True
of False:

Prime numbers do not have any factors.

## (D) Watch Video Solution

9. State whether the following statements are

True or False:

Sum of two prime numbers is always even.

## ( Watch Video Solution

10. State whether the followin statements are

True of False:
2 is the only even prime number.

## - Watch Video Solution

11. State whether the following statements are

True of False:

All even numbers are composite numbers.

## - Watch Video Solution

12. State whether the followin statements are

True of False:

The product of two even numbers is always even.

## - Watch Video Solution

13. The numbers 13 and 31 are prime numbers.Both these numbers have same digits1 and 3 .Find such pairs of prime numbers upto 100.
14. Write down separately the prime and composite numbers less than 20.

## D Watch Video Solution

15. What is the greatest prime number between 1 and 10 ?
16. Express the following as the sum of two odd primes:

44
(D) Watch Video Solution
17. Express the following as the sum of two odd primes:

24

D Watch Video Solution
18. Express the following as the sum of two odd primes:

24
(D) Watch Video Solution
19. Express the following as the sum of two odd primes:

18
20. Give three pairs of prime numbers whose diffrene is 2.[Remark:Two prime numbers whose difference is 2 are called twin primes]

## - Watch Video Solution

21. Which of the following numbers are prime?
(a) 23 , (b) 51 , (c) 37 , (d) 26
(D) Watch Video Solution
22. Write seven consecutive composite numbers
less than 100 so that there is no prime number between them.

## D Watch Video Solution

23. Express each of the following numbers as the sum of three odd primes:

21
24. Express each of the following numbers as the sum of three odd primes:

31

- Watch Video Solution

25. Express each of the following numbers as the sum of three odd primes:

53

D Watch Video Solution
26. Express each of the following numbers as the sum of three odd primes:

61

## D Watch Video Solution

27. Write five pairs of prime numbers below 20 whose sum is divisible by 5 . (Hint $3+7=10$ )
28. Fill in the blanks in the following:

A number which has only two factors is called a

## D Watch Video Solution

29. A number which has more than two factors is ___called a number.
(D) Watch Video Solution
30.1 is neither prime nor
30. The smallest even prime number is

- Watch Video Solution

32. The smallest composite number is

## - Watch Video Solution

33. Fill in the blanks in the following:
the smallest even number is

## - Watch Video Solution

## Exercise 33

1. Using divisibility tests, determine which of the
following numbers are divisible by 2 , by 3 , by 4 , by
5 , by 6 , by 8 , by 9 , by 10 , by 11 (say, yes or no).

Number
$128,990,1586,275,6686,639210,429714,2856,3060,406839$
(D) Watch Video Solution
2. Using divisibility tests,determine which of the
following numbers are divisible by 4,by 8 :

572

## D Watch Video Solution

3. Using divisibility tests, determine which of the following numbers are divisible by 4 by 8 .

726352
4. Using divisibility tests, determine which of the
following numbers are divisible by 4 .

5500

## D Watch Video Solution

5. Using divisibility tests, determine which of the following numbers are divisible by 4 ,by 8 :

6000
6. Using divisibility tests,determine which of the following numbers are divisible by 4,by 8 :

12159

## D Watch Video Solution

7. Using divisibility tests,determine which of the following numbers are divisible by 4 ,by 8 :

14560

D Watch Video Solution
8. Using divisibility tests, determine which of the following numbers are divisible by 4 by 8 .

Divisbility by 4
21084

## D Watch Video Solution

9. Using divisibility tests, determine which of the following numbers are divisible by 4 by 8 .

Divisbility by 4

31795072
10. Using divisibility tests, determine which of the following numbers are divisible by 4,by 8 :

1700

## ( Watch Video Solution

11. Using divisibility tests, determine which of the
following numbers are divisible by 4 ,by 8 :
2150

D Watch Video Solution
12. Using divisibility tests, determine which of the following numbers are divisible by 4, by 8 :

572

## D Watch Video Solution

13. Using divisibility tests, determine which of the following numbers are divisible by 4 ,by 8 :

726352
(D) Watch Video Solution
14. Using divisibility tests, determine which of the
following numbers are divisible by 4 by 8 .

5500

## - Watch Video Solution

15. Using divisibility tests, determine which of the following numbers are divisible by 8
16. Using divisibility tests, determine which of the
following numbers are divisible by 8.
12159
( Watch Video Solution
17. Using divisibility tests, determine which of the
following numbers are divisible by 8.
14560
(D) Watch Video Solution
18. Using divisibility tests, determine which of the
following numbers are divisible by 4 by 8 .
Divisbility by 4
21084

## D Watch Video Solution

19. Using divisibility tests, determine which of the
following numbers are divisible by 4 by 8 .
Divisbility by 4

31795072
20. Using divisibility tests, determine which of the following numbers are divisible by 8.

2150

## (D) Watch Video Solution

21. Using divisibility tests, determine which of the
following numbers are divisible by 8.
1701

D Watch Video Solution
22. Using divisibility tests determine which of following numbers are divisible by 6 :

297144

## (D) Watch Video Solution

23. Using divisibility tests, determine which of the following numbers are divisible by 6 .

1258

D Watch Video Solution
24. Using divisibility tests, determine which of the
following numbers are divisible by 6 .

3230

## D Watch Video Solution

25. Using divisibility tests, determine which of the following numbers are divisible by 6 .

366

## D Watch Video Solution

26. Using divisibility tests, determine which of the
following numbers are divisible by 6.

901352

## D Watch Video Solution

27. Using divisibility tests, determine which of the following numbers are divisible by 6 .

438750

## D Watch Video Solution

28. Using divisibility tests, determine which of the
following numbers are divisible by 6.

1790184

## D Watch Video Solution

29. Using divisibility tests determine which of following numbers are divisible by 6 :

12583
30. Using divisibility tests determine which of following numbers are divisible by 6 :

639210

## (D) Watch Video Solution

31. Using divisibility tests determine which of following numbers are divisible by 6 :

17852
(D) Watch Video Solution
32. Using divisibility tests, determine which of the following numbers are divisible by 11.

901153

## D Watch Video Solution

33. Write the smallest digit and the largest digit in the blank space of each of the following numbers so that the number isdivisible by 3 :
_-6724.
34. Write the smallest digit and the largest digit in the blank space of each of the following numbers so that the number isdivisible by 3 :

4765 2.

## D Watch Video Solution

35. Write digit in the blank space of each of the following numbers so that the number is divisible by 11 : 8_9484.
36. Write the digit in the blank space of each of
the following numbers so that the number
formed is divisible by 11
92......... 390

## (D) Watch Video Solution

## Exercise 34

1. Find the common factors of:

20 and 28.
2. Find the common factors of :

15 and 25.

## - Watch Video Solution

3. Find the common factors of :

35 and 50

## (D) Watch Video Solution

4. Find the common factors of :

56 and 120.

## (D) Watch Video Solution

5. Find the common factors of:

4,8 and 12
(D) Watch Video Solution
6. Find the common factors of :

5,15 and 25.
7. Find first three common multiples of:

6 and 8.

- Watch Video Solution

8. Find first three common multiples of

3 and 4

- Watch Video Solution

9. Write all the numbers less than 100 which are common mutliples of 6 and 8 .

## (D) Watch Video Solution

10. Which of the following numbers are co-prime 18 and 35

## (D) Watch Video Solution

11. Which of the following numbers are co-prime

15 and 37

## - Watch Video Solution

12. Which of the following numbers are co-prime

30 and 415

- Watch Video Solution

13. Which of the following numbers are co-prime

17 and 68
(D) Watch Video Solution
14. Which of the following numbers are co-prime

216, 215

## - Watch Video Solution

15. Which of the following numbers are co-prime

## 81 and 16

## (D) Watch Video Solution

16. A number is divisible by both 5 and 12 .By which other number will that number be always
divisible?

## (D) Watch Video Solution

17. A number is divisible by $12 . B y$ what other numbers will that number divisible?

## D Watch Video Solution

Exercise 35

1. Which of the following statemennts are true?

If a number is divisible by 3 ,it must be divisible by
9.

## D Watch Video Solution

2. Which of the following statemennts jare true ?

If a number is divisible by 9 ,it must be divisible by
3.

## - Watch Video Solution

3. Check whether the given statement is true or not

A number is divisible by 18 if it is divisible by both 3 and 6.

## (D) Watch Video Solution

4. Which of the following statemennts are true?

A number is divisible by 9 and 10 both,then it must be divisible by 90 .

## (D) Watch Video Solution

5. Which of the following statemennts are true?

If two numbers are co-primes, at least one of them
must be prime.

## D Watch Video Solution

6. Which of the following statemennts jare true ?

All numbers which are divisible by 4 must also be divisble by 8 .

## Watch Video Solution

7. Which of the following statemennts are true ?

All numbers which are divisible by 8 must also be divisible by 4.

## - Watch Video Solution

8. Which of the following statemennts jare true ?

If a number exactly divides two numbers separately,it must exactly divide their sum.

## - Watch Video Solution

9. Which of the following statemennts jare true ?

If a number exactly divides the sum of two numbers,it must exactly divide the two numbers separately.

## - Watch Video Solution

10. Here are two different factor trees for $60 . W$ rite the missing numbers.

## D Watch Video Solution

11. Which factors are not included in the prime factorisation of a composite number?
12. Write the greatest four digit number and express it in terms of its prime factors.

## - Watch Video Solution

13. Write the smallest five digit number and exress it in the form of its prime factors.

## - Watch Video Solution

14. Find all the prime factors of 1729 and arrange
them in ascending order.Now state the relation, if
nay, between two consecutive prime factors.

## D Watch Video Solution

15. The product of three consecutive numbers is always divisible by 6.Explain this statement with the help of some examples.

## - Watch Video Solution

16. The sum of two consecutive odd number is
divisible by 4.Verify statement with help of some examples.

## - Watch Video Solution

17. In which of the following expressions, prime factorization has been done?

$$
18=2 \times 6 \times 1
$$

## - Watch Video Solution

18. In which of the following expressions,prime factorisation has been done:
$56=1 \times 7 \times 2 \times 2 \times 2$.
19. In which of the following expressions,prime factorisation has been done:
$70=2 \times 5 \times 7$.

## (D) Watch Video Solution

20. In which of the following expressions, prime factorisation has been done: $54=2 \times 3 \times 9$.
21. Determine if 25110 is divisible by 45 . [Hint: 5 and 9 are co-oprime numbers.Test the divisibility of the numbers by 5 and 9.].

## ( Watch Video Solution

22. 18 is divisible by both 2 and 3 .lt is also divisible by $2 \mathrm{xx} 3=6$ Similarly, a number is divisible by both 4 and 6.Can we say tyhat number must also be divisible by 4 xx $6=24$ ? If not,give one example to justify yur answer.
23. I am the smallest number ,having four different prime factors.Can you find me?

## - Watch Video Solution

## Exercise 36

1. Find the HCF of

18, 48

- Watch Video Solution


## 2. Find the HCF of

30,42
(D) Watch Video Solution
3. Find the HCF of

18,60
(D) Watch Video Solution
4. Find the HCF of

27,63

## - Watch Video Solution

5. Find the HCF of

36,84

D Watch Video Solution
6. Find the HCF of

34,102

D Watch Video Solution
7. Find the HCF of

20,40,100

## D Watch Video Solution

8. Find the HCF of

91,112,49
(D) Watch Video Solution
9. Find the HCF of

18,54,81
10. Find the HCF of
$12,45,75$

- Watch Video Solution

11. What is the H.C.F of two consecutive numbers?
(D) Watch Video Solution
12. What is the H.C.F of two consecutive even numbers?

## (D) Watch Video Solution

13. What is the H.C.F of two consecutive odd numbers?

## D Watch Video Solution

14. H.C.F. of co-prime numbers 4 and 15 was found
as follows:factorisation $: 4=2 \times 2$ and
$15=3 \times 5$. since there is no common prime factor,so H.C.F. of 4 anb 15 is 0.1 s the answer correct?If not,what is the correct H.C.F ?

## (D) Watch Video Solution

Exercise 37

1. Anil purchases two hags of fertilizer of weights

20 kg and 55 kg . Find the maximum value of
weight which can measure the weight of fertilizer
exact number of times.
2. Three boys step off together from the same
spot. Their steps measure $15 \mathrm{~cm}, 25 \mathrm{~cm}$ and 45 cm respectively. What is the minimum distance each should cover so that all can cover the distance in complete steps?

## D Watch Video Solution

3. Thge length ,breadth and height of a room are $825 \mathrm{~cm}, 675 \mathrm{~cm}$ and 450 cm respectively.Find the
longest tape which can measure the three dimensions of the room exactly.

## (D) Watch Video Solution

4. Determine the smallest 3 -digit number which is exactly divisible by 6,8,12.

## - Watch Video Solution

5. Determine the largest 3-digit number exactly divisible by 8,10 and 12.
6. The Traffic lights at three different road crossings change after every 48 seconds, 72 seconds and 108 seconds respectively, If they change simultaneously at 7 am at what time will they change simultaneously again?

## D Watch Video Solution

7. Three tankers contain 403 litres, 434 litres and

465 litres of diesel repectively.Find the maximum
capacity of a container that can measure the
diesel of the three containers exact number of times.

## (D) Watch Video Solution

8. Find the least number which when divided by 6 ,

15 and 18 leave remainder 5 in each case.

## - Watch Video Solution

9. Find the smallest four digit number which is divisible by 18,24 and 32.
10. Find the LCM of the following numbers.
(a) 9,4

- Watch Video Solution

11. Find the LCM of the following numbers in which one number is the factor of the other:

6,36

## D Watch Video Solution

# Additional Questions For Practice Very Short Type 

 Questions1. Number of even prime number is
A. 0
B. 1
C. infinite
D. none of these

## Answer:

## 2. The HCF of two consecutive odd numbers is

A. 0
B. 1
C. 2
D. none of these

## Answer:

## - Watch Video Solution

3. Two numbers are said to be co-prime if
A. Both are prime
B. One is prime
C. No common factor other than 1
D. none of these

## Answer:

- Watch Video Solution

4. HCF of 100 and 101 is
A. 100
B. 101
C. 1

## D. none of these

## Answer:

## - Watch Video Solution

5. LCM of 999 and 1000 is
A. 999
B. 1000
C. 999000

## D. none of these

## Answer:

## - Watch Video Solution

6. Greatest 2-digit prime number is:
A. 11
B. 97
C. 13

## D. none of these

Answer:

## - Watch Video Solution

## 7. Smallest odd composite number

A. 9
B. 4
C. 2
D. none of these

Answer:

## D Watch Video Solution

8. Which of the following is a factor of every number
A. 1
B. 0
C. any number
D. none of these

## 9. Identify twin primes

A. 13,17
B. 23,29
C. 7,5
D. none of these

## Answer:

# 10. For any two numbers which is greater: 

A. HCF
B. LCM
C. none
D. none of these

Answer:

- Watch Video Solution

11. State whether the statement is true or not

Sum of 2 prime numbers is always a prime number.

## D Watch Video Solution

12. Check whether the statement is true or not Prime number are not divisible by any number.
13. Which of the following statemennts are true ?

If a number is divisible by 3 ,it must be divisible by
9.

## D Watch Video Solution

14. Check whether the statement is true or not

If a number is divided by its factor, Remainder is always zero.
(D) Watch Video Solution
15. Check the statement is true or not

Number 1is the multiple of every number.

## (D) Watch Video Solution

16. Check whether the statement is true or not

Sum of two odd numbers is divisible by 2 .

## (D) Watch Video Solution

17. Check whether the statement is true or not

Every number other than 1 has atleast two
distinct factors

## - Watch Video Solution

18. Fill in the blanks:

The number which is neither prime nor composite is $\qquad$

- Watch Video Solution

19. The smallest perfect number is
20. A number which has more than two factors is called a number.

## (D) Watch Video Solution

21. L.C.M. of $4,5,2$ is

## (D) Watch Video Solution

22. The process of getting all the prime factors of
a number is called
(D) Watch Video Solution
23. Smallest number having three different prime factors is

## - Watch Video Solution

24. Two prime numbers whose difference is 2 are called Questions
25. Find:

HCF of 2 and an even number

## - Watch Video Solution

## 2. Find:

HCF of two distinct prime numbers.

D Watch Video Solution
3. Express the following as the sum of three odd primes 49

## - Watch Video Solution

4. Express the following as the sum of three odd primes

27

## D Watch Video Solution

5. Express the following as the sum of three odd primes

105

- Watch Video Solution

6. Express the following as the sum of three odd primes

31
7. A list consists of the following pairs of numbers. (41,43), (45,47), (49,51), $(53,55),(57,59)$

Classify them as pairs of:
(a) co-primes (b) primes (c) composite (d) Twin primes
(D) Watch Video Solution

## Additional Questions For Practice Long Answer Type

 Questions
# 1. In each of the following numbers replace by the 

 smallest digits to make.46 * 53 divisible by 3.

## - Watch Video Solution

2. In each of the following numbers replace $x$ by the smallest digits to make.
$871 x$ must be divisible by 4 .

## D Watch Video Solution

3. In each of the following numbers replace by the smallest digits to make.

7 * 9089 must be divisible by 11 .

## (D) Watch Video Solution

4. In each of the following numbers replace by the smallest digits to make.
$574 \times$ must be divisible by 5 .

## - Watch Video Solution

5. Write five consecutive composite numbers so that there is no prime number between them.

## (D) Watch Video Solution

6. Can you find a natural number which is divisible by both 2 and 10 but not by 5 . Give reason.

## (D) Watch Video Solution

7. Find the HCF of:

72,180
8. Find the HCF of:

64,216,360
(D) Watch Video Solution
9. Find the HCF of:

42,66,102
(D) Watch Video Solution
10. Find the LCM of the following numbers.

135,315

## (D) Watch Video Solution

11. Find the LCM of the following numbers.
$12,48,64$

D Watch Video Solution
12. Find the LCM of the following numbers.

1,3,6,9,12

## - Watch Video Solution

13. Two bags contain 85 kg and 68 kg of wheat resp. Find the maximum weight of containers which can measure the wheat in either bags in exact number of times.

## - Watch Video Solution

14. HCF of two number is 15 and their product is
15. Find their LCM.
(D) Watch Video Solution
16. The students in a class can be divided into groups of 2,3,4,5. What is the least number of children this class can have?

## (D) Watch Video Solution

16. There are 30 mango bites 24 coffee bites 48 eclairs in a box. These are to be put in packets so that each packet contains same number of toffees. Find the maximum number of toffees in each packet.

## Additional Questions For Practice Hots High Order Thinking Skills

1. Four bells toll at intervals of $8,9,12$ and 15 minutes respectively. If they toll together at 1.00 PM. When will they toll together next?
(D) Watch Video Solution

## Sample Paper For Practice

# 1. Every counting number has finite number of 

A. Factors
B. multiples
C. perfect numbers
D. None

Answer: A

## D Watch Video Solution

2. The smallest perfect number is
A. 4
B. 6
C. 8
D. none of these

## Answer: B

## - Watch Video Solution

3. Fill in the blanks in the following:

A number which has only two factors is called a
A. Prime numbers
B. Composite numbers
C. factors
D. none of these

## Answer: A

## - Watch Video Solution

## 4. HCF of first ten natural numbers is

A. 5
B. 10
C. 1

## D. none of these

## Answer: C

## D Watch Video Solution

5. Give an example of a number which is divisible:
(a) 2 but not by 4
(b) 3 not by 9
(c) 2 and 3 but not by 6
(d) 4 not by 8

## - Watch Video Solution

6. Express each of the following numbers as two odd primes. (a) 44 , (b) 36

## (D) Watch Video Solution

7. Find the possible missing twins for the following numbers so that they become twin primes
(a) 29 (b) 19
(D) Watch Video Solution
8. Express the following numbers as the sum of two odd primes: (a) 66 , (b) 90

D Watch Video Solution
9. Can two numbers have 15 as their HCF and 175
as LCM Why?
(D) Watch Video Solution
10. Fill in the blanks:

Factors which are not included in the prime factorization of a composite number are and

## D Watch Video Solution

11. For a number greater than 10 but less than 20 to be prime, the possible digits in the ones place are $\qquad$
12. Every number has $\qquad$ number of multiples and___number of factors.

## ( Watch Video Solution

13. Find the numbers between 1 and 20 having exactly three factors

## - Watch Video Solution

14. What should be added to 5407 to make it divisible by 9.
15. What least number must be subtracted from

2258 to make it divisible by 32

- Watch Video Solution

16. Replace the blank space in 526 [ ] with the least number so that it is divisible by 11
17. Write the number from 10 to 30 and identify.

A pair of twin primes

## (D) Watch Video Solution

18. Write the number from 10 to 30 and identify.

A pair of co-primes
(D) Watch Video Solution
19. Write the number from 10 to 30 and identify.

A perfect number
20. Write the number from 10 to 30 and identify.
composite numbers

D Watch Video Solution
21. Write the number from 10 to 30 and identify.

Two prime numbers
(D) Watch Video Solution
22. Write the number from 10 to 30 and identify.

Two odd numbers

- Watch Video Solution

