



BAL BHARATI PUBLIC SCHOOL, PITAMPURA, DELHI – 110034

SUBJECT:- MATHEMATICS

CHAPTER : PLAYING WITH NUMBERS (PART-3)

TOPIC:- TESTS FOR DIVISIBILITY OF NUMBERS

GUIDELINES:x`

Dear students

Kindly refer to the following notes/video links from the Chapter- "PLAYING WITH NUMBERS" SUB TOPIC- " TESTS FOR DIVISIBILITY OF NUMBERS-PART-1" and thereafter do the questions in your Maths notebook.

LINK FOR THE CHAPTER:- <http://ncert.nic.in/textbook/textbook.htm?femh1=3-14>

INTRODUCTION:

Divisible: When one number can be divided by another number without leaving a remainder.

For example, 6 is divisible by 3.

Tests for Divisibility of Numbers: Is the number 27 divisible by 2? by3? by4?

By actually dividing 27 by these numbers we find that it is divisible by 3 but not by 2 and by 4.

A number is exactly divisible by another number, when quotient is a whole number and the resulting remainder is zero.

Sometimes actual division of huge number can be very tedious.

Divisibility rules of whole numbers help us to quickly determine if a number can be divided by 2, 3, 4, 5, 8 ,9, and 10 without doing division.

These rules have a wide range of applications in mathematics like finding factors, determining prime versus composite numbers and simplifying fractions etc.

NOTE : "Divisible by" and "can be exactly divided by" mean the same thing.

Let's explore!!

SUB TOPICS

- **DIVISIBILITY BY 2**
- **DIVISIBILITY BY 4**
- **DIVISIBILITY BY 8**
- **DIVISIBILITY BY 5**
- **DIVISIBILITY BY 10**

Tests for divisibility of numbers

Divisibility by 2 (Refer to the link -<https://www.youtube.com/watch?v=snlaBXZxyFc>)

If the number ends with 2, 4, 6, 8 or 0, it is divisible by 2.

Example : 28, 54, 96

Here 28, 54 and 96 end with 8, 4 and 6 respectively.

Therefore, 28, 54 and 96 are divisible by 2.

Divisibility by 4 (Refer to the link <https://www.youtube.com/watch?v=Ubb6iGJEJvY> ;

watch the video from 0:00 to 1:38 and 5:37 till the end)

If the number formed by last two digits of any given number is divisible by 4, then that number is divisible by 4.

Example: 628

The number formed by last two digits is 28 and $28 \div 4 = 7$

Therefore, 628 is divisible by 4..

Divisibility by 8 (Refer to the link-

<https://www.youtube.com/watch?v=pJheXZsWJZk> ;watch the video from 0:00 to 2:42 and 5:18 till the end)

A number is divisible by 8 if the number formed by its last three digits is divisible by 8.

Example 1- 2544

Number formed by last three digits is 544.

$$544 \div 8 = 68$$

Therefore, 2544 is divisible by 8.

Example 2 : Fill the blank space with the smallest digit and the greatest digit to

make the number divisible by 8 : $971 _ 4$ (Justify)

ANS : Number = $971 _ 4$

Number formed by last 3 digits = $1 _ 4$

If we take " 0 " then 104 is divisible by 8 as Quotient is 13 and Remainder is 0

If we take " 8 " then 184 is divisible by 8 as Quotient is 23 and Remainder is 0

Smallest digit is "0" and greatest digit is " 8 "

Possible numbers are 97104 and 97184.

Divisibility by 5 (Refer to the link- https://www.youtube.com/watch?v=5Z_bzElbiXc)

If the digit in the ones place of a number is 5 or 0, then it is divisible by 5.

Example 1- 95

95 ends in 5;
Therefore, 95 is divisible by 5.

Example 2- 680

680 ends in 0.
Therefore, 680 is divisible by 5.

Divisibility by 10 (Refer to the link- <https://www.youtube.com/watch?v=3GX8-mmlChw>)

A number is divisible by 10 if it ends with a ZERO.

Example: 1570. Here the last digit is 0. Therefore, 1570 is divisible by 10.

POINTS TO REMEMBER

DIVISIBILITY RULES

2 If the last digit of a number is even, then the number is divisible by 2.

4 If the last two digits of a number are divisible by 4, then the number is divisible by 4.

5 If the last digit of a number is 0 or 5, then the number is divisible by 5.

8 If the last three digits of a number are divisible by 8, then the number is divisible by 8.

10 If the last digit of a number is 0, then the number is divisible by 10.

ASSIGNMENT

EXERCISE- 3.3: Q1 (do divisibility test for 2,4,8,5,10) AND Q-2 FROM N.C.E.R.T BOOK is to be done in Maths notebook.

MORE QUESTIONS FOR PRACTICE :

These questions are for practice and to be done in any other practice notebook.

Practice questions:

Q1. Check whether the given numbers are divisible by 2 ,4 and 8

without actual division.

(i) 23408

(ii) 10024

(iii) 34972

Q2. Fill in the blank space with the smallest digit and the greatest to make the number divisible by 8 : 784 _6

QUIZ ON KNOWING OUR NUMBERS:

- You can attempt the quiz only once.
- There are 10 MCQ questions, each question carries 1 mark.
- Submit the quiz. Thereafter, no changes can be made.
- Scores and correct answers will be displayed after clicking submit.

Click the link below to attempt the quiz::

<https://forms.gle/YkhtfESxVxGauyVFA>