



BAL BHARATI PUBLIC SCHOOL, PITAMPURA, DELHI – 110034

SUBJECT:-MATHEMATICS

CHAPTER:-INTEGERS(Part -2)

TOPIC:-DIVISION OF INTEGERS

STEP 1:-GUIDELINES AND INTRODUCTION

GUIDELINES:

Dear Students

We have learned about multiplication of integers in the previous lesson plan. Now we will learn about division of integers as the next subtopic of integers.

Kindly refer to the following notes/video links from the Chapter- "INTEGERS" SUB TOPIC- "DIVISION OF INTEGERS" and thereafter do the questions in your math notebook.

LINK FOR THE CHAPTER:-<http://ncert.nic.in/textbook/textbook.htm?gemh1=1-15>

INTRODUCTION:

DIVISION:

Division refers to splitting into equal parts.

Example - Dividing 4 ice-creams into two parts,



We get,



2 ice-creams in each part i.e. $4/2=2$

STEP 2:- SUB TOPIC

- ❖ Division of integers
 - Negative integer by positive integer or positive by a negative integer
 - Negative integer by a negative integer
- ❖ Division by 0
- ❖ Division by 1

STEP 3:-KEY POINTS

REFER TO THE LINK:(<https://youtu.be/b6JaiKvEP9Y> - link to understand the properties of integers on division)

OR

[https://www.examfear.com/free-video-lesson/Class-7/Maths/Integers/part-17/Maths_Integers_part_17_\(Division_on_Integers\).htm](https://www.examfear.com/free-video-lesson/Class-7/Maths/Integers/part-17/Maths_Integers_part_17_(Division_on_Integers).htm)

AND

[https://www.examfear.com/free-video-lesson/Class-7/Maths/Integers/part-18/Maths_Integers_part_18_\(Properties_on_Division_of_Integers\).htm](https://www.examfear.com/free-video-lesson/Class-7/Maths/Integers/part-18/Maths_Integers_part_18_(Properties_on_Division_of_Integers).htm) (watch from 0:37 to 2:12)

❖ DIVISION OF AN INTEGER

- $a \div (-b) = (-a) \div b$ where $b \neq 0$

We know that division is the inverse operation of multiplication. Let us see an example for whole numbers.

Since $3 \times 5 = 15$

So $15 \div 5 = 3$ and $15 \div 3 = 5$

Similarly, $4 \times 3 = 12$ gives $12 \div 4 = 3$ and $12 \div 3 = 4$

We can say for each multiplication statement of whole numbers there are two division statements.

Can you write multiplication statement and its corresponding division statements for integers?

Observe the following and complete it.

Multiplication Statement

$$2 \times (-6) = (-12)$$

$$(-4) \times 5 = (-20)$$

Corresponding Division Statements

$$(-12) \div (-6) = 2$$

$$(-12) \div 2 = (-6)$$

$$(-20) \div (5) = (-4)$$

$$(-20) \div (-4) = 5$$

We observe that when we divide a negative integer by a positive integer, we divide them as whole numbers and then put a minus sign (-) before the quotient. We, thus, get a negative integer.

So we can say that when we divide a positive integer by a negative integer, we first divide them as whole numbers and then put a minus sign (-) before the quotient. That is, we get a negative integer.

In general, for any two positive integers a and b -

$$\mathbf{a \div (-b) = (-a) \div b \text{ where } b \neq 0}$$

Find:

(a) $125 \div (-25)$

(b) $80 \div (-5)$

(c) $64 \div (-16)$

➤ $\mathbf{(-a) \div (-b) = a \div b \text{ where } b \neq 0}$

Observe that,

$$(-12) \div (-6) = 2;$$

$$(-20) \div (-4) = 5;$$

$$(-32) \div (-8) = 4;$$

$$(-45) \div (-9) = 5$$

So, we can say that when we divide a negative integer by a negative integer, we first divide them as whole numbers and then put a positive sign (+). That is, we get a positive integer.

In general, for any two positive integers a and b

$$(-a) \div (-b) = a \div b \text{ where } b \neq 0$$

Find:

(a) $(-36) \div (-4)$

(b) $(-201) \div (-3)$

(c) $(-325) \div (-13)$

❖ **Division by 0:** For any integer a , $a \div 0$ is not defined, but $0 \div a = 0$ for $a \neq 0$

❖ **Division by 1:** When we divide a whole number by 1 it gives the same whole number.

Observe the following:

$$(-8) \div 1 = (-8)$$

$$(-11) \div 1 = -11$$

$$(-13) \div 1 = -13$$

This shows that negative integer divided by 1 gives the same negative integer.

So, any integer divided by 1 gives the same integer.

In general, for any integer a , $a \div 1 = a$

STEP 4 :-ASSIGNMENT

Exercise 1.4 of N.C.E.R.T : Q1 (do all even parts), Q2 (a), Q3 (do even parts), Q4, Q5, Q6 and Q7

Practice Questions:

Q1. $0 \div 10$ gives

- (a) 0 (b) 10 (c) 1 (d) 10

Q2. Which of the following is not true:

- (a) $0 \div 2 = 0$ (b) $-25 \div 5 = 5$ (c) $12 \div 0 = 12$ (d) $4 \div 1 = 4$

Q3. Which of the following is true:

- (a) $5 \div 7 = 7 \div 5$ (b) $0 \div 3 = 0 \div 5$ (c) $2 \div 0 = 2 \div 0$ (d) $4 \div 1 = 1 \div 4$

Q4. Which of the following does not represent pair of integer (a, b) such that $a \div b = 2$

- (a) $(6, 3)$ (b) $(2, 1)$ (c) $(10, 5)$ (d) $(8, 4)$

Q5. On dividing a negative integer by other negative integer the quotient will be:

- (a) Always negative (b) always positive (c) Either positive or negative (d) 1

Q6. $-18 \div 2$ gives:

- (a) 36 (b) 9 (c) -9 (d) 16

Q7. $-6 \div (3)$ gives :

- (a) 9 (b) 2 (c) -2 (d) 3

Q8. 15 divided by 3 is equal to :

- (a) 12 (b) 12 (c) 5 (d) 5

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