**25/05/2020** **JESUS AND MARY SCHOOL AND COLLEGE** **MODULE 4**

 **CLASS-7 (MATHS)**

 **CHAPTER NAME-INTEGERS**

Topics:

* Introduction
* What is an Integer?
* Ordering and comparison of Integers.
* Absolute value of an Integer.
* Operation on Integers

**INTRODUCTION**

**Whole Numbers**

Whole numbers include zero and all natural numbers i.e. 0, 1, 2, 3, 4 and so on.

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 $-6 -5 -4 -3 -2 -1 0 1 2 3 4 5$

 Whole numbers

**Negative numbers**

The numbers which lie to the left of zero on the number line are called negative numbers. These numbers have a minus sign$\left(-\right)$. For example$\left(-3\right)$,$ \left(–4\right)$ etc.

 | | | | | | | | | | | |

 $-6 -5 -4 -3 -2 -1 0 1 2 3 4 5$

 Negative numbers Positive numbers

 Zero is neither

 positive nor a

 negative number

**WHAT IS AN INTEGER?**

We learned about natural numbers, whole numbers and negative numbers. Let us extend our knowledge and learn about Integers. The collection of whole numbers and negative numbers is known as integer. So the numbers { ………,-4,-3,-2,-1,0,1,2,3,4,………..} and so on, all are known as integers.

**Note**: ***Integer numbers cannot be decimals and fractions.***

**ORDERING AND COMPARISON OF INTEGERS**

We know that every whole number on the right side of a number line is greater than the whole number on its left. Applying the same concept in integers,

We can say 9 > 4, 4 > 3 and so on. Also 1 > 0 > -1 > -2 so on.

**ABSOLUTE VALUE OF AN INTEGER**

The absolute value of an integer is the numerical value without its sign whether the sign is positive or negative. Absolute value is denoted by $\left|a\right|$ where a is an integer.

For example: $\left|5\right|=5$ and $\left|-5\right|=5$

Thus, we can say that **absolute value of an integer is always positive.**

Example: Evaluate the following:

 i) $17+\left|-2\right|=17+2=19$

 ii) $\left|13-5\right|÷\left|-2\right|=\left|8\right|÷\left|-2\right|=8÷2=4$

**OPERATIONS ON INTEGERS**

**Addition**

For example:

1. $\left(+23\right) and \left(+7\right)=\left(+23\right)+\left(+7\right)=23+7=30$
2. $\left(-30\right) and \left(-15\right)=\left(-30\right)+\left(-15\right)=-30-15=-45$
3. $\left(+20\right) and \left(-5\right)=\left(+20\right)+\left(-5\right)=20-5=15$

**Subtraction**

 For example:

1. $\left(+4\right) from \left(+14\right)=\left(+14\right)-\left(+4\right)=14-4=10$
2. $\left(-7\right) from \left(+14\right)=\left(+14\right)-\left(-7\right)=14+7=21$
3. $\left(-4\right) from \left(-5\right)=\left(-5\right)-\left(-4\right)=-5+4=-1$

**WORKSHEET-1**

**Q.1.** Use the appropriate symbols >, =, < to fill in the blanks:

 i) $-3$ \_\_\_\_ $5$ ii) $-2$ \_\_\_\_ $-5$ iii) $0×4$ \_\_\_\_ $6-6$ iv) $6$\_\_\_\_ $8÷2$

**Q.2.** Arrange the following integers in ascending order:

 i) $-20, 13, 4, 0, -5, 5 $ ii)$ -39, 35, -102, 0, -51,- 5, -6, 7 $

**Q.3.** Arrange the following integers in descending order:

 i) $30, -2, 0, -6, -20, 8 $ ii) $-99, 54, -89, 70, -3, 2 $

**Q.4.** Evaluate the following:

 i) $\left|+33\right|$ ii) $\left|-5+8\right|$ iii) $-\left|5-2\right|$

 iv) $\left|-3\right|×\left|-7\right|$ v) $17+\left|-6\right|$ vi)$ -\left|17-2\right|÷\left|-3\right|$

**Q.5.** Find the value of:

 i)$ \left(-18\right)+35$ ii) $\left(-15\right)+0$ iii) $\left(-13\right)-\left(-5\right)$ iv)$ 12-\left(+4\right)$

**Q.6.** Evaluate the following:

 i) $\left(-6\right)+4-\left(-2\right)$ ii) $5+\left(-3\right)+\left(-8\right)$

 iii) $8-3-\left(-8\right)$ iv) $38-\left(-25\right)-48+\left(-5\right)+13-(-6)$

**Note**- **Please do this assignment in your copies. It will be checked when the school re-opens.**

**SOLUTION TO WORKSHEET-3**

 **(Uploaded on 18/05/2020)**

 **Ans.1.**$ \frac{9}{40}$ and $ \frac{39}{40}$ **Ans.2.** $10\frac{4}{7}$ **Ans.3.** $\frac{5}{7}$ **Ans.4.** $3\frac{7}{8}$ **Ans.5.** ₹ 64/Kg

 **Ans.6.** 20 Km **Ans.7.** 18 kg **Ans.8.** $7\frac{1}{2}$ m **Ans.9.** $2\frac{1}{5}$ cm **Ans.10.** ₹ 7500

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