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**Comparing Decimals**

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While comparing two decimal numbers, we consider the following rules:

* We compare the place values of digits from left to the right.
* Extra zeroes to the right of the last digit of a decimal value do not change the value of the number.
* Extra zeroes between decimal point and a decimal digit do not change its value.

Problem: Which is greater? (a) 1.23 or 1.2

Solution:

Place Value of digits is compared from the left till we find a greater place value.

|  |  |  |
| --- | --- | --- |
| Place Value – 1.23 | Relation between place value  | Place value -1.2 |
| 1\*1 = 1  | = | 1\*1 = 1 |
| 2\*1/10 = 0.2  | = | 2\*1/10 = 0.2 |
| 3\*1/100 = 0.03 | >  | 0\*1/100 = 0 |

Since the value of 0.03 is greater than zero, 1.23 is greater than 1.2.

Problem: Which is greater? (b) 0.099 or 0.19

Solution:

Place value is compared :

|  |  |  |
| --- | --- | --- |
| Place Value – 0.099 | Relation between place value  | Place value -0.19 |
| 0\*1 = 0  | = | 0\*1 = 0 |
| 0\*1/10 = 0  | <  | 1\*1/10 = 0.1 |

Since 0.1 is greater than 0, there is no need of further comparing the place value of digits. 0.19 is greater than 0.099.

Problem : In a class test of 20 marks, Tanya scored 19.4 marks and Rahul scored 19.2 marks. Who scored higher?

Solution:

Place Value of Tanya’s Marks – 19.4

|  |  |  |
| --- | --- | --- |
|   | Relation between place value  | Place value of Rahul’s Marks – 19.2 |
| 1\*10 = 10  | = | 1\*10 = 10 |
| 9\*1  = 9  | = | 9\*1 = 9 |
| 4\*1/10 = 0.4 | >  | 2\*1/10 = 0.2 |

Since the place value of Rahul’s Marks is higher, Rahul has scored higher marks than Tanya.