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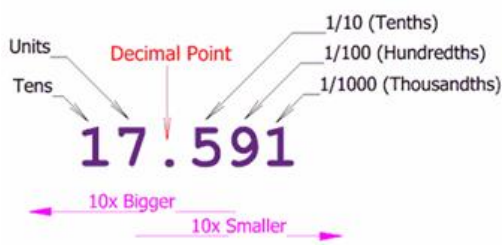
Introduction to Decimals

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What are Decimals?



Decimals are an extension of our number system. Decimals can be considered as fractions whose denominators are 10, 100, 1000 etc.
For example, 17.591



Clearly, each decimal number or decimal has two parts;whole number part and decimal part. Also these parts are separated by a dot (.), called the decimal point. In the decimal number 17.591, whole number part is 17 and decimal part is 591.

Decimal Places

The number of digits contained in the decimal part of a decimal number is known as the number of decimal places.
For example, 3.75 has two decimal places and 82.325 has three decimal places.

Like and Unlike Decimals

Decimals having the same number of places are called like decimals i.e. having the same number of digits on the right of the decimal point are known aslike decimals. Otherwise the decimals are unlike decimals.

Conversion between Decimals and Fractions

In order to convert a decimal into fraction, we use the following steps:



- Obtain the decimal.
- Take the numerator as the number obtained by removing the decimal point from the given decimal.
- Take the denominator as the number obtained by inserting as many zeros with 1. (e.g. 10, 100, 1000 etc.) as there are number of places in the decimal part.

For example – Write 0.05 as fraction in lowest term?

0.05 = 05 = 5 = 1

100 100 20

Now, to express fractions as decimals, we follow the following steps:

- Obtain the fraction and convert it into an equivalent fraction with denominator 10 or 100 or 1000 if it is not so.
- Write its numerator and mark decimal point after one place or two places or three places from right towards left if the denominator is 10 or 100 or 1000 respectively. If the numerator is short of digits, insert zeros at the left of the numerator.

For example, Write 15/2 as decimals?

15 x 5 = 75 = 7.5

2 x 5 10

Example 2 - Write 1359/100 as decimals?

1359 = 13.59

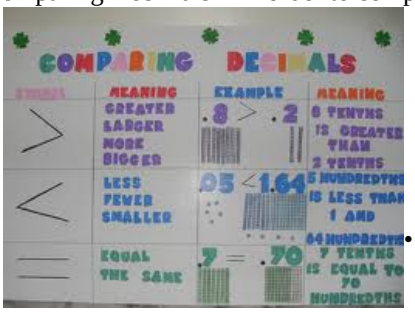
100

Example 3 – Write 29/1000as decimals? 29 = 0.029

1000

Comparing Decimals

Comparing Decimals – In order to compare decimal numbers, we may follow the following steps:



- Obtain the decimal numbers.
- Compare the whole parts of the numbers. The number with greater whole part will be greater. If the whole parts are equal, go to next step.
- Compare the extreme left digits of the decimal parts of two numbers. The number with greater extreme left digit will be greater. If the extreme left digits of decimal parts are equal, then compare the next digits and so on.

For example, which is greater of 48.23 and 39.35?

The given decimals have distinct whole number parts, so we compare whole number parts.

In 48.23, the whole number part is 48.

In 39.35, the whole number part is 39.

48 > 39

Therefore, 48.23 > 39.35

Example 2 – Write the following decimals in ascending order:

5.64, 2.54, 3.05, 0.259 and 8.32
Converting the given decimals into like decimals, we get
5.640, 2.540, 3.050, 0.259 and 8.320
Clearly, 0.259 > 2.540 > 3.050 > 5.640 > 8.320
Hence, the given decimals in the ascending order are:
0.259, 2.54, 3.05, 5.64 and 8.32

Now try it yourself! Should you still need any help,click here to schedule live online session with e Tutor!

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Reference Links:

- http://en.wikipedia.org/wiki/Decimal
- http://en.wikipedia.org/wiki/Number_system
- http://en.wikipedia.org/wiki/Whole_number
- http://wiki.answers.com/Q/What_are_like_decimaLS
- http://www.webmath.com/redfract.html
- http://www.youtube.com/watch?v=Gn2pdkvdbGQ
- http://www.aaaknow.com/dec52_x2.htm

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