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**Decimals as fractions and Fractions as Decimals**

Decimals are values of fractions. So fractions can be converted into decimals and decimals can be converted into Fractions.

**Decimals as Fractions**

* Conversion is done by seeing the place value of numbers.
* In conversion to fraction, the decimal can be written simply as a number with denominator having as many zeroes as the number of digits after the decimal point.

Problem: Write the following as fractions in lowest forms. 0.05

Solution:

Here 0 is at Ones place, 0 is at tenths place and 5 is at hundredths place.

= 0\*1 + 0\*1/10 + 5\*1/100

= 0 + 0 + 5/100

=5/100

=1/20

There are two digits after the decimal point. So the conversion can also be done as writing the number and dividing by 100.

5/100 = 1/20

Problem: Write the following as fractions in lowest forms. 5.2

Solution:

Here 5 is at ones place and 2 is at tenths place.

=5\*1 + 2\*1/10

=5 + 2/10

=50 +2/10

=52/10

=26/5

There is one digit after the decimal point. So the fraction can be written as :

=52/10

=26/5

**Fractions as Decimals**

Problem: Write the following fractions as decimals. 13/10

Solution:

= 10+3/10

=10/10 + 3/10

= 1+0.3

=1.3

Problem: Write the following fractions as decimals.



Solution:

In this case, 2/10 and 6/1000 will be solved individually to get:

= 23 + 0.2 + 0.006

= 23 + 0.206

=23.206