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**Decimal Fractions**

School grade: K7/K8

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# **Ordinary fraction with the denominator a power of ten**

Any ordinary fraction with a power of ten denominator is written as a decimal fraction by placing a comma before a number of numerator digits, counted from right to left, equal to the exponent of 10 in the denominator. If necessary, zeros are written in front of the numerator.

*Examples:*





# **Decimal fraction with a finite number of decimal places**

Any decimal fraction with a finite number of decimal places is converted into an ordinary fraction with the numerator consisting of the natural number obtained from the decimal fraction by removing the comma and the denominator a power of 10 with the exponent equal to the number of finite decimal places of the fraction.

*Examples:*





# **Ordinary irreducible fraction**

Any ordinary irreducible fraction  , with  , is transformed, using the natural number division algorithm, into:

• finite decimal fraction, if its decomposition into the product of prime factors contains only factors 2 or 5;

• simple periodic decimal fraction, if its decomposition into the product of prime factors contains neither prime factor 2 nor prime factor 5;

• mixed periodic decimal fraction, if its decomposition into the product of prime factors contains at least one of the prime factors 2 and 5 and at least one other prime factor different from 2 and 5.

*Examples:*













# **Transformation**

Transforming finite decimal fractions into ordinary fractions:



Transformation of simple periodic decimal fractions into ordinary fractions:



Transformation of mixed periodic decimal fractions into ordinary fractions:



*Examples*:











