

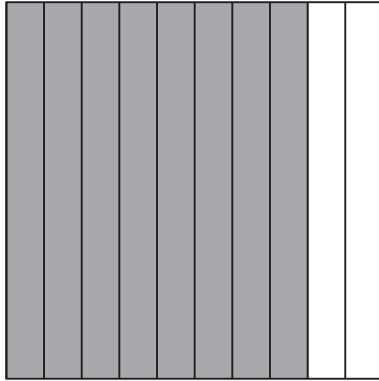
1 Relating Decimals to Fractions

Writing Decimal Tenths as Fractions

Any decimal of the form $\square.\square$ can be written as a fraction or mixed number with a denominator of 10.

For example:

- 0.8 can be written as $\frac{8}{10}$ since 8 in the tenths place means 8 tenths.



$$0.8 = \frac{8}{10}$$

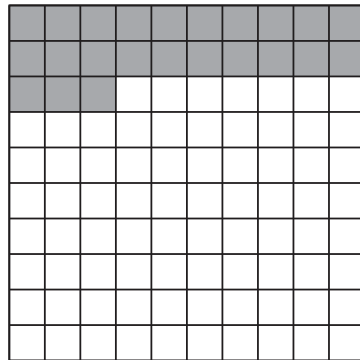
- 3.2 can be written as $3\frac{2}{10}$ since 0.2 means $\frac{2}{10}$ and $3\frac{2}{10}$ means $3 + \frac{2}{10}$.

Writing Decimal Hundredths as Fractions

Any decimal of the form $\square.\square\square$ can be written as a fraction or mixed number with a denominator of 100. Some decimals of the form $\square.\square\square$ can be written as a fraction or mixed number in other ways, too.

For example:

- 0.23 can be written as $\frac{23}{100}$ since it means 23 hundredths.



$$0.23 = \frac{23}{100}$$

Writing Decimal Hundredths as Fractions (continued)

- 3.25 can be written as $3\frac{25}{100}$. It can also be written as $3\frac{1}{4}$ since $\frac{25}{100}$ is $\frac{1}{4}$.
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Writing Fractions as Decimals

Any fraction with a denominator of 10 or 100 can be written as a decimal since the fractions are tenths or hundredths.

For example, $\frac{3}{10}$ can be written as 0.3 and $1\frac{5}{100}$ can be written as 1.05.

Some fractions with denominators other than 10 or 100 can also be written as fractions equivalent to tenths or hundredths.

For example:

$$\frac{1}{2} = \frac{5}{10}, \text{ so } \frac{1}{2} \text{ can be written as } 0.5.$$

$$\frac{1}{4} = \frac{25}{100}, \text{ so } \frac{1}{4} \text{ can be written as } 0.25.$$

$$\frac{9}{50} = \frac{18}{100}, \text{ so } \frac{9}{50} \text{ can be written as } 0.18.$$

These equivalents to tenths or hundredths can be created when denominators are factors of 10 or 100, such as 2, 4, 5, 20, 25, and 50.

Definitions

decimal hundredth: a number that extends to the right of the whole number by two decimal places to the hundredths place, for example, 0.56, 3.74

decimal tenth: a number that extends to the right of the whole number by one decimal place to the tenths place, for example, 0.5, 3.7

factor: one of the numbers you multiply in a multiplication sentence; for example, in $2 \times 5 = 10$, 2 and 5 are factors