Decimal Numbers

Topic 2: Converting Decimals to Fractions

Class Notes

Steps for Converting Decimals to Fractions:

1. Put the decimal number on top and 1 on the bottom
2. Count how many numbers come after the decimal point
3. For each decimal place, multiply both the top and bottom by 10
    - 1 decimal place → multiply by 10
    - 2 decimal places → multiply by 100
    - 3 decimal places → multiply by 1000
    - etc.
4. Make the fraction smaller if you can (simplify the fraction)

Examples:

Example 1: Convert 0.75 to a fraction

- Step 1: $\frac{0.75}{1}$
- Step 2: We have **2** decimal places, so we multiply by 100
- Step 3: $\frac{0.75 \times 100}{1 \times 100} = \frac{75}{100}$
- Step 4: Simplify by dividing by GCD(75,100) = 25
- Answer: $\frac{3}{4}$

Example 2: Convert 0.125 to a fraction

- $\frac{0.125}{1} = \frac{125}{1000} = \frac{1}{8}$ (after simplifying)

Exercise 2

Convert the following decimals to fractions in lowest terms:

1. 0.6 →
2. 0.25 →
3. 0.375 →
4. 1.4 →
5. 2.25 →

Topic 3: Converting Fractions to Decimals

Class Notes

Steps for Converting Fractions to Decimals:

1. Check if the denominator is a multiple of 10
2. If yes, move the dot to the left the same number of times as you have zeroes in your denominator
3. If not, convert the fraction such that the denominator is a multiple of 10, then move the dot

Examples:

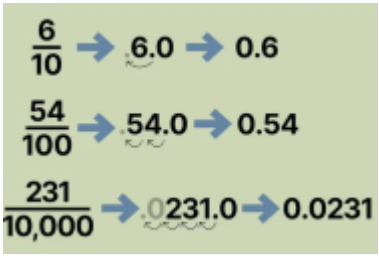
Example 1 - Denominator already a multiple of 10: Convert $\frac{3}{100}$ to a decimal

- Step 1: Denominator is already a multiple of 10
- Step 2: We have **2** zeroes, so we move the dot to the left 2 times
- Answer: 0.03

Example 2 - Denominator NOT a multiple of 10: Convert $\frac{1}{4}$ to a decimal

- Step 1: Denominator is not a multiple of 10
- Step 2: $\frac{1}{4}$ can be rewritten as $\frac{25}{100}$ using equivalent fraction. $\frac{1}{4} = \frac{25}{100}$
- Step 3: We have **2** zeroes, so we move the dot to the left 2 times
- Answer: 0.25

Look at the picture below for more details



Exercise 3

Convert the following fractions to decimals:

1. $\frac{1}{2}$ →
2. $\frac{3}{4}$ →
3. $\frac{7}{10}$ →
4. $2\frac{2}{5}$ →
5. $6\frac{3}{20}$ →