Converting a Decimal into a Fraction

Understanding the Topic

- A decimal shows a part of a whole using a dot (.).
- We can change a decimal into a fraction by removing the decimal point and using the correct denominator (10, 100, 1000...).
- The number of digits after the decimal point tells us the denominator.
- Always simplify the fraction if possible.

How to Convert?

- Count how many digits are there after the decimal point.
- Remove the decimal point and write the number as the numerator.
- Put the correct power of 10 (like 10, 100, 1000) as the denominator.
- Reduce or simplify the fraction if needed.

Examples with Solutions

1. Convert 0.6 into a fraction

One digit after decimal → Denominator is 10

0.6 = $\frac{6}{10}$

Simplify: $\frac{6}{10} = \frac{3}{5}$

Answer: $\frac{3}{5}$

2. Convert 0.25 into a fraction

Two digits after decimal → Denominator is 100

0.25 = $\frac{25}{100}$

Simplify: $\frac{25}{100} = \frac{1}{4}$

Answer: $\frac{1}{4}$

3. Convert 1.5 into a fraction

Ignore the whole number for now → $0.5 = \frac{5}{10} = \frac{1}{2}$

Add the whole number: $1 + \frac{1}{2} = \frac{3}{2}$

Answer: $\frac{3}{2}$

4. Convert 0.125 into a fraction

Three digits after decimal → Denominator is 1000

0.125 = $\frac{125}{1000}$

Simplify: $\frac{125}{1000} = \frac{1}{8}$

Answer: $\frac{1}{8}$

5. Convert 2.75 into a fraction

0.75 = $\frac{75}{100} = \frac{3}{4}$

Add whole number: $2 + \frac{3}{4} = \frac{11}{4}$

Answer: $\frac{11}{4}$

Summary Points

- To convert a decimal to a fraction, use powers of 10 (10, 100, 1000) as denominators.
- Remove the decimal point and write the number on top.
- Simplify the fraction if possible.
- For mixed decimals (like 1.5), convert the decimal part to a fraction, then add it to the whole number.
- Always check if your answer can be reduced to a simpler form.