

Fraction to Decimal Division Method

Introduction

Converting a fraction to a decimal is a fundamental skill in mathematics. The most straightforward method is by using division: dividing the numerator (top number) by the denominator (bottom number).

Step-by-Step Method

1. **Identify the Numerator and Denominator**

The fraction $\frac{a}{b}$ has numerator a and denominator b .

2. **Set Up the Division**

Write the numerator as the dividend (inside the division symbol) and the denominator as the divisor (outside).

3. **Perform the Division**

Divide the numerator by the denominator using long division or a calculator.
If the division does not terminate, you may get a repeating decimal.

4. **Write the Result**

The quotient is the decimal equivalent of the fraction.

Example 1: Simple Fraction

Convert $\frac{3}{4}$ to a decimal.

Set up the division: $3 \div 4$

Perform the division: $3 \div 4 = 0.75$

Answer: $\frac{3}{4} = 0.75$

Example 2: Repeating Decimal

Convert $\frac{2}{3}$ to a decimal.

Set up the division: $2 \div 3$

Perform the division: $2 \div 3 = 0.666... = 0.\bar{6}$

Answer: $\frac{2}{3} = 0.\bar{6}$

Notes

Important: If the division does not end, indicate repeating digits with a bar (e.g., $0.\bar{3}$ for $0.333...$).

Maths with Melissa

Practice Questions

1. Convert $\frac{5}{8}$ to a decimal.
2. Convert $\frac{7}{9}$ to a decimal.
3. Convert $\frac{11}{20}$ to a decimal.
4. Convert $\frac{2}{5}$ to a decimal.
5. Convert $\frac{13}{6}$ to a decimal.
6. Convert $\frac{1}{16}$ to a decimal.
7. Convert $\frac{9}{11}$ to a decimal.
8. Convert $\frac{15}{4}$ to a decimal.
9. Convert $\frac{3}{7}$ to a decimal.
10. Convert $\frac{17}{25}$ to a decimal.

Maths with Melissa

Answer Key

1. $\frac{5}{8} = 0.625$

2. $\frac{7}{9} = 0.\bar{7}$

3. $\frac{11}{20} = 0.55$

4. $\frac{2}{5} = 0.4$

5. $\frac{13}{6} = 2.166\dots = 2.1\bar{6}$

6. $\frac{1}{16} = 0.0625$

7. $\frac{9}{11} = 0.818\bar{1}$

8. $\frac{15}{4} = 3.75$

9. $\frac{3}{7} = 0.4285\bar{7}1$

10. $\frac{17}{25} = 0.68$