

Year 7 Fractions, Decimals & Percentages Cheat Sheet

1. Fractions Basics

Key Terms:

Numerator: Top number (parts we have).

Denominator: Bottom number (total parts).

Equivalent Fractions: Different fractions that represent the same value (e.g., $\frac{1}{2} = \frac{2}{4}$).

Simplest Form: No common factors between numerator & denominator (e.g., $\frac{4}{8} \rightarrow \frac{1}{2}$).

Operations with Fractions:

Adding/Subtracting:

Same denominator: $\frac{3}{5} + \frac{1}{5} = \frac{4}{5}$

Different denominators: Find LCM (e.g., $\frac{1}{2} + \frac{1}{3} = \frac{3}{6} + \frac{2}{6} = \frac{5}{6}$).

Multiplying: Multiply numerators & denominators ($\frac{2}{3} \times \frac{3}{4} = \frac{6}{12} = \frac{1}{2}$).

Dividing: Flip the second fraction and multiply ($\frac{1}{2} \div \frac{1}{3} = \frac{1}{2} \times \frac{3}{1} = \frac{3}{2} = 1\frac{1}{2}$).

2. Decimals Basics

Key Rules: Place Value: Tenths (0.1), Hundredths (0.01), Thousandths (0.001).

Operations:

Line up decimal points for addition/subtraction.

For multiplication, ignore decimals first, then count total decimal places in the problem.

Converting Fractions \leftrightarrow Decimals:

Fraction \rightarrow Decimal: Divide numerator by denominator ($\frac{3}{4} = 3 \div 4 = 0.75$).

Decimal \rightarrow Fraction: Write over 10/100/1000 & simplify ($0.6 = \frac{6}{10} = \frac{3}{5}$).

3. Percentages Basics

Key Rules: "Percent" means "per 100" (e.g., $25\% = \frac{25}{100} = \frac{1}{4}$).

Converting:

Percentage \rightarrow Decimal: Divide by 100 ($40\% = 0.4$).

Decimal → Percentage: Multiply by 100 ($0.03 = 3\%$).

Fraction → Percentage: Convert to decimal first ($\frac{1}{5} = 0.2 = 20\%$).

Finding Percentages of a Number:

Method 1: Convert % to decimal & multiply (30% of 50 → $0.3 \times 50 = 15$).

Method 2: Use fractions (25% of 80 → $\frac{1}{4} \times 80 = 20$).

4. Fractions, Decimals & Percentages Table

Fraction	Decimal	Percentage
$\frac{1}{2}$	0.5	50%
$\frac{1}{3}$	0.33..	33.3%
$\frac{1}{4}$	0.25	25%
$\frac{1}{5}$	0.2	20%

5. Word Problems & Tips

Example Problems:

Fraction → Decimal: Convert $\frac{5}{8}$ (Answer: 0.625).

Percentage of Quantity: Find 15% of 200 (Answer: 30).

Discounts: A \$40 jacket is 20% off. Sale price? (Answer: \$32).

Common Mistakes:

- ✗ Adding denominators ($\frac{1}{2} + \frac{1}{3} \neq \frac{2}{5}$).
- ✗ Misplacing decimals in multiplication.
- ✗ Forgetting to simplify fractions.

6. Practice Problems (Answers Below)

Simplify $\frac{8}{12}$

Calculate 0.4×0.3

What is 35% as a fraction?

Answers:

$$\frac{2}{3}$$

$$0.12$$

$$\frac{7}{20}$$