NCERT – GRADE 8 CHEAT SHEET:

FDP TRIO
(Fractions, Decimals, and Percentages)

Pumpa

1 TOPIC SNAPSHOT

Fractions, decimals, and percentages describe parts of quantities. They are closely connected. We can easily convert between them.

All forms can describe the same amount.
$\frac{3}{4} = 0.75 = 75\%$.

2 KEY CONCEPTS

Fraction: A part of a whole (e.g., $\frac{3}{3}$).

Decimal: A value based on powers of 10 place value (e.g., 0.5).

Percentage: Parts per 100 (e.g., 50%).

A percentage (e.g., $p\%$) means $\frac{p}{100}$ of a whole quantity.
$p\% = \frac{p}{100}$

3 CONVERTING FRACTION TO PERCENTAGE & DECIMAL

Fraction to Percentage:
Formula: Fraction × 100.
Example: $\frac{3}{5} \times 100 = 60\%$.

Fraction to Decimal:
Method: Divide Numerator by Denominator.
Example: $\frac{3}{4} = 3 \div 4 = 0.75$.

4 CONVERTING DECIMAL TO FRACTION & PERCENTAGE

Decimal to Fraction:
Method: Use place value for denominator, then simplify.
Example: 0.45 → write over 100 → $\frac{45}{100} = \frac{9}{20}$ ⚠ Check simplification!

Decimal to Percentage:
Formula: Decimal × 100, add %.
Example: 0.6 × 100 = 60%.

5 CONVERTING PERCENTAGE TO FRACTION & DECIMAL

RULES:

Percentage to Fraction:
Method: Remove %, write number over 100, simplify.
Example: $45\% = \frac{45}{100} = \frac{9}{20}$ ⚠ Remember simplify!

Percentage to Decimal:
Method: Remove %, divide by 100 (move 2 places left).

6 EXAM FOCUS & HOTSPOTS

KEY TOPICS:

- **Finding % of a Quantity:** $p\%$ of $Q = \frac{p}{100} \times Q$
  Example: 30% of 250 = 75.
- **Percentages Greater Than 100:**
  100% is the complete whole.
  150% means 1.5 times the whole.
  Example: 150% of 200 = 300.
- **Estimation:** E.g., 49% of 200 should be slightly less than 100.

6 EXAM MATH

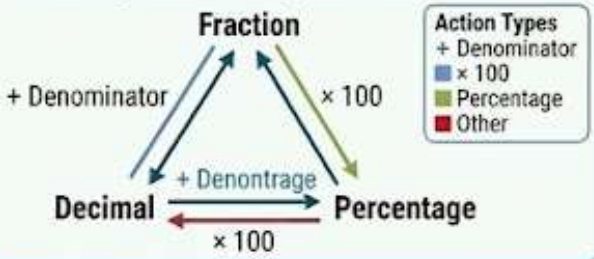
- **Mental Strategies:**
  Combine familiar percents (c + 75%).
  Example for 75% of 200: 100 + 50 = 150.
- **Estimation:** E.g., 49% of 200 should be close to 100.

7 REAL-LIFE APPLICATIONS OF FDP

- **Shopping:** $20% off discount.
- **Cooking:** Recipe 1/2 size (0.5x).
- **Statistics:** Test scores (e.g., 90%).
- **Growth:** 5% population increase.

8 VISUAL MEMORY AID

Visualizing the relationships and conversion actions.



9 30-SECOND RAPID REVISION

- **Fraction → Decimal:** Division.
- **Decimal → Percentage:** × 100.
- **Percentage → Decimal:** ÷ 100.
- **Fraction → Percentage:** × 100.
- **Percentage → Fraction:** write over 100.
- 100% = the whole.
- $p\%$ of $Q = \frac{p}{100} \times Q$

10 KEY TAKEAWAY

Fluency in converting between Fractions, Percentages makes complex mathematical and real-world problems manageable with ease.

Remember: Always double-check your conversions and estimate before finalizing calculations.