"**Paise – Rupee Relation**" is very simple:

1 Rupee = 100 Paise

So,

- **1 paisa = 1/100 rupee**
- **50 paise = 0.50 rupee**
- **75 paise = 0.75 rupee**
- **125 paise = 1.25 rupee**
- **250 paise = 2.50 rupee**

Conversion Formula

✔ **Paise → Rupees**
$$
\text{Rupee} = \frac{\text{Paise}}{100}
$$

✔ **Rupees → Paise**
$$
\text{Paise} = \text{Rupee} \times 100
$$

Examples

1. **450 paise = 450/100 = 4.50 rupees**
2. **7.25 rupees = 7.25 × 100 = 725 paise**

If you want, I can give a **short tricks PDF** for money relations also.

Here are **beautiful, spacious, clean, exam-ready notes** on **CHAIN RULE (Quantitative Aptitude)** with **full bullet points, clear theory, direct & inverse logic, all patterns, shortcuts, and examples**.

⭐ CHAIN RULE – COMPLETE NOTES (QUANTITATIVE APTITUDE)

(Not Calculus – Men, Work, Time, Wages, Speed, etc.)

🔵 1. Meaning of Chain Rule

- Used when **more than one quantity** is changing.
- Each quantity affects the final answer either:
    - **Directly** (same direction)
    - **Inversely** (opposite direction)
- Chain rule = **linking multiple proportional changes** step by step.

🔵 2. Direct Proportion (↑ ↑ or ↓ ↓)

If one increases → the other *also increases*
If one decreases → the other *also decreases*

Examples

- More men → more work done
- More hours → more work
- More wages → more days a person works
- More distance → more time needed
- More items → more cost

Formula

$$
A \propto B \Rightarrow \frac{A_1}{A_2} = \frac{B_1}{B_2}
$$

🔵 3. Inverse Proportion (↑ ↓ or ↓ ↑)

If one increases → the other decreases
If one decreases → the other increases

Examples

- More men → less time needed
- More speed → less time
- More efficiency → less time
- More people → food lasts fewer days

Formula

$$
A \propto \frac{1}{B} \Rightarrow \frac{A_1}{A_2} = \frac{B_2}{B_1}
$$

🔵 4. Golden Chain Rule Shortcut

Step-by-Step

1️⃣ Identify all changing quantities
2️⃣ Write ratios for each
3️⃣ Decide **Direct or Inverse**
4️⃣ Multiply ratios in order
5️⃣ Apply to original value

🔵 5. Universal Chain Rule Formula

$$
\text{Final Value} =
\text{Initial Value} \times
\left(\frac{x_1}{x_2}\right)^{\pm}
\times
\left(\frac{y_1}{y_2}\right)^{\pm}
\times
\left(\frac{z_1}{z_2}\right)^{\pm} \cdots
$$

Use

- **Same ratio for Direct**
- **Inverse ratio for Inverse**

🔵 6. Core Examples (From Exams)

✔ Example 1: Simple Men–Days

10 men finish a work in 15 days.
How many days for 25 men?

Men ↑ → Time ↓ (inverse)

$$
15 \times \frac{10}{25} = 6 \text{ days}
$$

✔ Example 2: Men + Hours (Mixed Chain)

8 men × 6 hours = 20 days
12 men × 5 hours = ?

Men ↑ → Days ↓ (inverse)
Hours ↓ → Days ↑ (inverse of hours → days)

$$
\text{Days} = 20 \times \frac{8}{12} \times \frac{6}{5}
= 16 \text{ days}
$$

✔ Example 3: Consumption (Food–Men–Days)

Food lasts 40 days for 25 men.
How long for 50 men?

Men ↑ → Days ↓ (inverse)

$$
40 \times \frac{25}{50} = 20 \text{ days}
$$

✔ Example 4: Partnership (Capital × Time ∝ Profit)

A : B contributions
Capital ratio = 5 : 3
Profit ratio = 10 : 9
Find time ratio.

Capital × Time = Profit

$$
5T_1 : 3T_2 = 10 : 9
$$

Cross multiply:

$$
5T_1 \cdot 9 = 3T_2 \cdot 10
$$

$$
T_1 : T_2 = 30 : 25 = 6 : 5
$$

🔵 7. Patterns of Questions in Chain Rule (ALL EXAM MODELS)

✅ 1. Men–Work–Time

- Men ↑ → Time ↓

- Work ↑ → Time ↑
- Hours/day ↑ → Days ↓

Example:
Men, Days, and Hours change simultaneously.

✅ 2. Efficiency-Based Chain Rule

- More efficiency → fewer days
- Compare efficiency ratios

Example:
A alone 10 days, B alone 15 days, working together?

✅ 3. Men–Women–Children (Different Efficiencies)

- 1 Man = 2 Women = 3 Children type
- Mix teams → compare total efficiency

✅ 4. Wages Distribution

- Wages ∝ Work ∝ Time × Efficiency
- Divide money proportionally

✅ 5. Food–Consumption–People

- People ↑ → Days ↓
- Consumption rate changes → duration changes

Example:
Food for 60 men 20 days → for 80 men?

✅ 6. Time–Speed–Distance (Chain Rule Form)

- Speed ↑ → Time ↓
- Distance ↑ → Time ↑
- Used in multi-variable speed/travel questions

✅ 7. Pipes & Cisterns

- Rate ↑ → Time ↓
- Leak reduces rate → time ↑

✅ 8. Cost–Price–Quantity

- Quantity ↑ → Cost ↑
- Price ↑ → Quantity ↓ (if cost fixed)

✅ 9. Simple to Complex Ratio Problems

- “If A : B = 3 : 4 and B : C = 5 : 6…”
- Extend ratios using chain linking

✅ 10. Machine Problems

- More machines → less time
- Machines with different efficiencies
- Machine breakdowns → inverse impact

🔵 8. Tricky Shortcut Examples

✔ Example: Work changes + Men changes + Hours changes

12 men do a job in 18 days working 6 hours/day.
Find days when 9 men work 8 hours/day to complete **1.5× work**.

Ratios:

- Work ↑ → Days ↑ (direct)
- Men ↓ → Days ↑ (inverse)
- Hours ↑ → Days ↓ (inverse)

$$
18 \times \frac{1.5}{1} \times \frac{12}{9} \times \frac{6}{8}
$$

Simplify stepwise:

$$
\begin{aligned}
&=18 \times 1.5 \times \frac{4}{3} \times \frac{3}{4} \\
&=18 \times 1.5 \\
&=27 \text{ days}
\end{aligned}
$$

🔵 9. Super Short Summary

- More → More = Direct
- More → Less = Inverse
- Multiply all ratios in order
- Apply directly to original value

🟢 Want these notes as a beautiful clean PDF (with headings & examples)?

I can generate a **nicely formatted PDF** for you.