Class 8
Important Formulas

Chapter 8 - Comparing Quantities

S.no	Terms	Descriptions
1	Unitary Method	Unitary method is on the most useful method to solve ratio, proportion and percentage problems. In this we first find value of one unit and then find the value of required number of units.
		So in Short Unitary method comprises two following steps:
		Step 1 = Find the value of one unit.
		Step 2 = Then find the value of required number of units.
2	Percentages	Percentages are ways to compare quantities. They are numerators of fractions with denominator 100 or it basically means per 100 value
		Per cent is derived from Latin word 'per centum' meaning 'per hundred'
		It is denoted by % symbol
		1% means $1/100 = .01$
		We can use either unitary method or we need to convert the fraction to an equivalent fraction with denominator 100
3	Discounts	Discount is a reduction given on the Marked Price (MP) of the article.
		This is generally given to attract customers to buy goods or to promote sales of the goods. You can find the discount by subtracting its sale price from its marked price.
		So, Discount = Marked price – Sale price

4	Profit and Loss	Cost Price: It is the actual price of the item
		Overhead charges/expenses: These additional expenses are made while buying or before selling it. These expenses have to be included in the cost price
		Cost Price: Actual CP + overhead charges
		Selling Price: It is price at which the item is sold to the customer
		If S.P > C.P, we make some money from selling the item. This is called Profit
		Profit = SP – CP
		Profit % = (P/CP) X 100
		If S.P < C.P, we lose some money from selling the item. This is called Loss
		Loss = C.P – S.P
		Loss % = (L/C. P) X 100
5	Sales Tax and VAT	**Sales Tax(ST)**
		This is the amount charged by the government on the sale of an item.
		It is collected by the shopkeeper from the customer and given to the government. This is, therefore, always on the selling price of an item and is added to the value of
		Value added tax(VAT)
		This is the again the amount charged by the government on the sale of an item. It is collected by the shopkeeper from the customer and given to the government. This is, therefore, always on the selling price of an item and is added to the value of the bill.
		Earlier You must have seen Sales tax on the bill, now a day, you will mostly see Value Added Tax
		Calculation
		If the tax is x%, then Total price after including tax would

		be
		Final Price= Cost of item + (x/cost of item) X100
6	Interest	Interest is the extra money paid by institutions like banks or post offices on money deposited (kept) with them. Interest is also paid by people when they borrow money
7	Simple Interest	Principal (P): The original sum of money loaned/deposited. Also known as capital.
		Time (T): The duration for which the money is borrowed/deposited.
		Rate of Interest (R): The percent of interest that you pay for money borrowed, or earn for money deposited
		Simple interest is calculated as
		$$SI = \frac{P \times R \times T}{100}$$
		Total amount at the end of time period
		A= P + SI
8	Compound interest	Principal (P): The original sum of money loaned/deposited.
		Time (n): The duration for which the money is borrowed/deposited.
		Rate of Interest (R): The percent of interest that you pay for money borrowed, or earn for money deposited
		Compound interest is the interest calculated on the previous year's amount (A = P + I).
		$$A = P \left(1 + \frac{R}{100}\right)^n$$