Business Mathematics Topics

The most important topics covered in Business Mathematics are:

- Profit and Loss
- Statistics
- Simple and Compound Interest
- Interest Rates
- Loans
- Markups and markdowns
- Taxes and Tax Laws
- Discount Factor
- Annuities
- Insurance
- Credit
- Depreciation
- Future and Present Values
- Financial Statements

Business Mathematics consists of Mathematical concepts related to business. It comprises mainly profit, loss and interest. Math's is the base of any business. Business Mathematics financial formulas, measurements which helps to calculate profit and loss, the interest rates, tax calculations, salary calculations, which helps to finish the business tasks effectively and efficiently.

Business Mathematics is highly related to the Statistics concepts which give solutions to business problems. In business, we deal with the exchange of money or products, which have a monetary value. Each business leads to some profit and some loss. To identify these factors, we have to study the primary topics of Math's such as formulas to find a profit, loss, their percentages, discount, etc. Even Though, the requirement of this subject does not contain pure Math's, it needs Mathematical thinking and some Math's formulas. Here, we will discuss what is Business Mathematics, terminologies, and important formulas with problems and solutions.

What is Business Mathematics?

Business Math always deals with profit or loss. The cost of a product is fixed by taking into consideration it's profit, margin, cash discount, trade discount, etc. Business mathematics is used by commercial companies to record and manage business works. Commercial businesses use math's in departments of accounting, inventory management, marketing, sales forecasting and financial analysis.

Business Mathematics Basic Terms

- Selling Price: The market price is taken to sell a product.
- Cost Price: The original price of the product is the cost price.
- Profit: If the selling price is more than the cost price, the difference in the prices is the profit.
- Loss: If the selling price is less than the cost price, the difference in the prices is the loss.
- Discount: The reduced amount in the selling price of a product.
- Simple Interest: Simple interest is that interest which is counted against the capital amount or the portion of the main amount that remains unpaid.
- Compound Interest: Compound interest is the investment rate that increases exponentially.

Business Mathematics Formulas

Here, the 9 basic Business Mathematics formulas that we cannot ignore.

Net Income Formula:

- Net Income = Revenue – Expense

Accounting Equation:

- Assets = Liabilities + Equity
- Equity = Assets – Liabilities

Cost of Goods Sold Formula:

- COGS = Beginning inventory + Purchase during the period – Ending inventory

Break-Even point Formula:

- Break-Even Point = Fixed cost / (Sales Price per unit – variable cost per unit)

Current Ratio Formula:

- Current Ratio = Current Assets / Current Liabilities

Profit Margin Formula:

- Profit Margin = (Net Income/ Revenue) × 100

Return of Investment (ROI) Formula:

- ROI = [(Invest gain – Cost of Investment)/ Cost of Investment] × 100

Markup Formula:

- Markup Percentage = [(Revenue- COGS)/COGS] × 100

- Selling Price using Markup = (COGS × markup percentage) + COGS
- Where, COGS = Cost of goods sold

Inventory Shrinkage Formula:

- Inventory Shrinkage = [(Recorded Inventory – Actual Inventory)/ Recorded Inventory] × 100

Business Mathematics Example

While doing business, one can earn a good profit or face loss. The price of a product is fixed, taking into consideration it's cost price, profit, margin, trade discount, cash discount, etc. The price marked on the commodity is called marked price or catalogue price. For trading purposes, the manufacturer proposes a discount on the MRP to the buyer. This is called a trade discount. In addition to the trade discount, if the buyer pays cash against goods, he gets another cut called cash discount. The price of the object after subtracting the trade discount and cash discount is called the selling price. Thus, we have, Selling price = Cost price – Discounts. Let us discuss the most important concept called "Profit and Loss" here.

Profit and Loss:

A profit is the earned amount received by a business on selling a product whereas loss is the amount which is less than the actual price of the product. The formula for profit and loss is given based on the selling price and cost price of a commodity.

- Profit = Selling Price – Cost Price = S.P. – C.P. (S.P. > C.P)
- Loss = Cost Price – Selling Price = C.P. – S.P. (C.P. > S.P.)

Both these measures have their percentage value also and they are given by;

- Profit% = [(S.P. – C.P.)/C.P]. x 100 = (Profit/C.P.) x 100
- Loss% = [(C.P. – S.P.)/C.P.] x 100 = (Loss/C.P.) x 100