

## Commission

**Commission:** is paid to an agent when he/she sells goods and services.

- Commission is paid by either:
  - A fixed amount (irrespective of sales)
    - $C = F + (S \times R)$
  - Straight commission with no fixed amount
    - $C = S \times R$
- Where:
  - S = sale amount
  - R = rate of commission per sale
  - F = fixed amount paid (irrespective of sales)
  - C = commission earned

**Brokerage:** is commission paid to a stockbroker who acts on a client's behalf.

- Brokerage rates vary according to the type of the transaction, but general rules that apply are:
  - When selling, brokerage is subtracted from the proceeds of the sale
  - When buying, brokerage is added to the amount that you must pay for the stock or shares

## Discounts

**Discount:** is an inducement for the customer to make a purchase.

- On some occasions there may be more than one discount on an item; these multiple discounts are called **chain discounts**
- A reduction in price is referred to as a discount and is often expressed in the form of a percentage

To calculate the amount of a discount; where:

- L = list price
- D = amount of discount
- R = rate of discount
- DP = discount price

The rate of discount is  $R = D / L$

The amount of discount is  $D = R \times L$

The discount price (or net price) is  $DP = L - D$

**Trade discount:** is a special discount when goods and services are purchased from one business by another business.

- A typical trade discount would range between 10-25% depending on the trade item
- The method for calculating trade discounts is the same as in the previous examples

**Cash discount:** a form of discount that is given if the purchaser pays in cash or by cheque.

- The percentage of the discount may depend on how quickly the bill is paid

## Algebra

Algebra applies quantitative concepts to unknown quantities represented by symbols.

- **Constant:** is a term whose value does not change
- **Variable:** is a term that represents a quantity that may have different values
- **Term:** is part of an expression that is connected to another term by signs
- **Coefficient:** is a factor by which the rest of a term is multiplied
- **Degree:** of an expression is the highest exponent of any variable in the expression
- An **equation:** is a statement that two expressions are equal
- A **linear equation:** is one in which the largest value of exponents is 1
- **Solving the equation:** is where we find the value for the variable which makes the equation a true statement
- Two **simultaneous equations:** must be solved at the same time to find the values of the variables that will satisfy both equations

## Ratios & Proportions

A **ratio** is a method of comparing two or more numbers or rates.

A **proportion** represents the relative contribution of a quantity to the whole.

- The value of a proportion should lie between 0 and 1.

**Rates:** when comparisons involving large numbers are made, ratios are used to express the rate to which events take place.