

Unit 1

Lesson 3, Applications of Ratio & Proportional Second (Proportional Division)

prep¹

First term 2027



Proportion Division

Proportional division is dividing something such as money, a piece of land, or weight, etc. into two or more parts based in a specific ratio.

Proportional division is used in many real-life applications including dividing profits, distributing inheritance, and other practical applications.

Division of an amount of money or a piece of Land in a Given Proportion

Ex.1

A man wants to divide 1,200 LE between two persons in the ratio of 2 : 1. What is share of each?

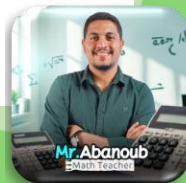
Solution

Ex.2

180 LE were divided among three persons in the ratio of 2 : 3 : 4, find the share of each.

Solution

طريقك للأمان الألبا في السماء



Ex.3

A piece of land is divided between two brothers in the ratio of 3 : 5. If the elder brother's share exceeds the younger brother's share by 20 square meters, find the share of each and the total area of the land.

Solution

Division of Profits or Losses Based on Capital

Ex.4

Three persons invested in a business in the ratio of 3 : 4 : 5. The first one has a profit share 15,000 LE. Calculate the share of the profit of each the second and third shared person.

Solution



Ex.5

If what Mohammed earns is twice what Bassem earns and the total amount of what they both get is 21,000 LE. How much does each one of them get?

Solution

Note That...

*If the first person's share is half of the second's, the ratio between them is $1:2 = \frac{1}{2}$

*If the first person's share is twice the second's, the ratio between them is $2:1 = \frac{2}{1}$

Ex.6

Three persons invested in a business. The first invested 250,000 LE, the second 200,000 LE, and the third 300,000 LE. By the end of the year, the profit was 150,000 LE. Calculate the share of each one in the profit.

Solution

*Division of Inheritance or Partnership***Ex.7**

A man passed away, leaving an inheritance of 600,000 LE to be distributed among his wife, two sons and a daughter. If the wife's share was $\frac{1}{8}$ of the amount, the daughter share is half the share of the son, find the share of each the daughter, son, and wife.

Solution

Other Applications on Proportion Division

Ex.8

A miner extracted metal alloy containing three metals of silver, tin, and copper in the ratio $\frac{1}{9}, \frac{1}{6}, \frac{1}{4}$. If the total mass of the alloy is 285 grams, find the mass of each metal in the alloy.

Solution



Exercise From the school book

Choose the correct answer from the given ones:

- ① A piece of with an area of 36 feddans was divided between two persons in the ratio of 7 : 2. Which in the following represent the share of either person?

(East Nasser City, Cairo 25)

- a) 4 feddans b) 14 feddans c) 18 feddans d) 28 feddans

- ② The sun of two numbers in 264 and the ratio between them is 4 : 7, then the greater number is

(Shibin El-Qanter, El-Kalyoibia 25)

- a) 132 b) 96 c) 168 d) 100

