

Percent account

G: P = 100:p What is what in proportions?

G - is a principal, (whole), what is "at the beginning" and it always refers 100%.

P - is part of the principal (whole), what is "at the end"and it applies to $p\%$.

Of course, sometimes P can be greater than G.

p – is always a percentage

In the task , we first determine what is specified: G, P or p. This data we put in **G: P = 100:p** and find unknown.

Examples:

1) **Thirty percent of a length is 42. How long the entire length is?**

$$G : P = 100 : p$$

$$G : 42 = 100 : 30$$

$$30G = 42 \cdot 100$$

$$G = \frac{42 \cdot 100}{30}$$

$$G = 140$$

2) **Price of shoe is 2.700\$? How much will it be after the price decrease of 15%?**

$$G : P = 100 : p$$

$$2.700 : P = 100 : 85$$

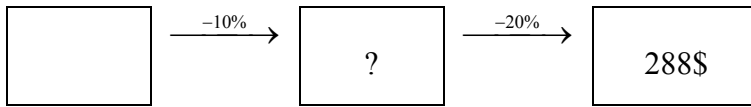
$$P \cdot 100 = 2.700 \cdot 85$$

$$P = \frac{2.700 \cdot 85}{100}$$

$$P = 2.295\$$$

$$\text{Discount 15\%, } p = 100 - 15 = 85\%$$

3) Price of book is cut for 10% and 20% ,and now amounts to 288 \$. What the price was before the first decrease?



First, you can find the cost of books before second decrease. (back)

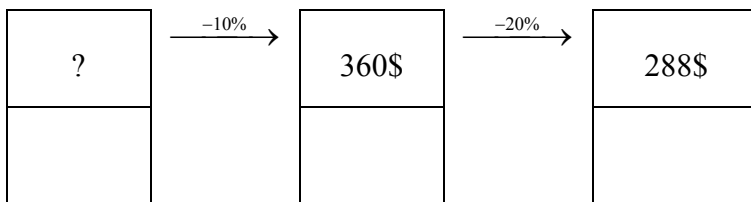
$$G : P = 100 : p$$

$$G : 288 = 100 : 80$$

$$80 \cdot G = 288 \cdot 100$$

$$G = \frac{288 \cdot 100}{80}$$

$$G = 360\$$$



Now require home price:

$$G : P = 100 : p$$

$$G : 360 = 100 : 90$$

$$90 \cdot G = 360 \cdot 100$$

$$G = \frac{360 \cdot 100}{90}$$

$$G = 400\$$$

4) With 6% of the earnings of goods sold for 1 272 000 \$. What is the cost of goods?

$$G : P = 100 : p$$

$$G : 1.272.000 = 100 : 106$$

$$G \cdot 106 = 1.272.000 \cdot 100$$

$$G = \frac{127.200.000}{106}$$

$$G = 1.200.000$$

$$p = 100 + 6 = 106\%$$

5) Award worker per hour of 6500\$ grow to 7020\$. How much is it in percentage?

$$G : P = 100 : p$$

$$6.500 : 520 = 100 : p$$

$$6.500 \cdot p = 520 \cdot 100$$

$$p = \frac{520 \cdot 100}{6.500}$$

$$p = 8\%$$

$$P = 7.020 - 6.500$$

$$P = 520$$

6) At the written exercises were given three tasks.

12% of students not solve a single task, 32% of students solve one or two tasks, while 14 students solve all three tasks. How much is the total student work training?

x- number of students

$$12\%x + 32\%x + 14 = 100\%x$$

$$\frac{12}{100}x + \frac{32}{100}x + 14 = x \quad ;$$

$$100\% = \frac{100}{100} = 1$$

$$12x + 32x + 1400 = 100x$$

$$12x + 32x - 100x = -1400$$
$$-56x = -1400$$

$$x = \frac{-1.400}{-56}$$

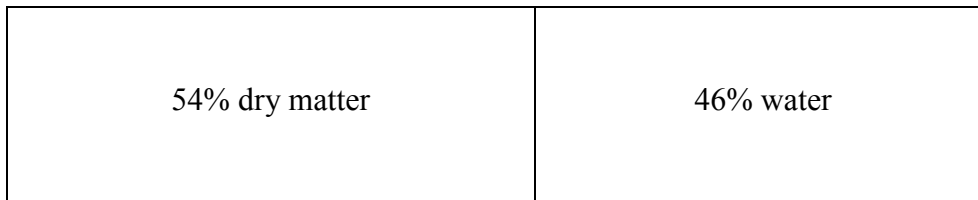
$$x = 25$$

7) Only brought down tree was difficult to contain 2.25 tons and 64% is water. After a week tree contained 46% water. How much has changed weight tree for the week?

fallen tree



Dry tree



First, we calculate how much is in the 2.25 tons of dry matter that **does not change!**

$$G : P = 100 : p$$

$$2,25 : P = 100 : 36$$

$$100 \cdot P = 2,25 \cdot 36 \rightarrow \text{This matter has remained dry, and refers to the 54\% tree}$$

$$P = \frac{2,25 \cdot 36}{100}$$

$$P = 0,81 \text{ tons}$$

$$G : P = 100 : p$$

$$G : 0,81 = 100 : 54$$

$$G \cdot 54 = 0,81 \cdot 100$$

$$G = \frac{0,81 \cdot 100}{54}$$

$$G = 1,5 \text{ tons}$$

So now that tree has 1.5 tons and decrease $2,25 - 1,5 = 0.75$ tons

