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%?**

Discount 15%, ***p*** **= 100-15 = 85%**

$$G : P = 100 : p$$
$$2.700 : P = 100 : 85$$
$$P \cdot 100 = 2.700 \cdot 85$$
$$P = \frac{2.700 \cdot 85}{100}$$
$$P = 2.295\$$$

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

$$\boxed{} \xrightarrow{-10\%} \boxed{?} \xrightarrow{-20\%} \boxed{288\$}$$

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

$$G : P = 100 : p$$
$$G : 288 = 100 : 80$$
$$80 \cdot G = 288 \cdot 100$$
$$G = \frac{288 \cdot 100}{80}$$
$$G = 360\$$$

$$\boxed{?} \xrightarrow{-10\%} \boxed{360\$} \xrightarrow{-20\%} \boxed{288\$}$$

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?

$$G : P = 100 : p$$
$$G : 1.272.000 = 100 : 106 \qquad p = 100 + 6 = 106\%$$
$$G \cdot 106 = 1.272.000 \cdot 100$$
$$G = \frac{127.200.000}{106}$$
$$G = 1.200.000$$

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

$$\frac{12}{100}x + \frac{32}{100}x + 14 = x \quad ; \qquad 100\% = \frac{100}{100} = 1$$

$$12x + 32x + 1400 = 100x$$
$$12x + 32x - 100x = -1400$$
$$-56x = -1400$$
$$x = \frac{-1.400}{-56}$$
$$x = 25$$

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

fallen tree

36% dry matter	64% water

2,25 tons

Dry tree

54% dry matter	46% water

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

$G : P = 100 : p$

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

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

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

$P = 0{,}81 tons$

$G : P = 100 : p$

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

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

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

$G = 1{,}5 tons$

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