

5th grade

Arithmetic tasks applied into
workers' form local factories
duties

Can we use Math into our future jobs?

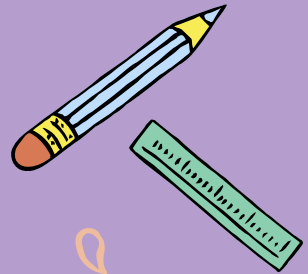
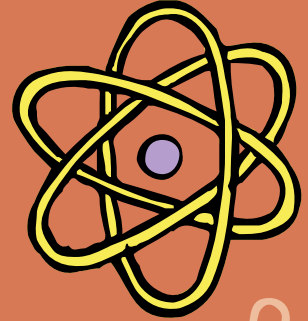


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Unit reduction method

In order to find a bigger quantity you will calculate one unit.

02

Comparison method

You will analyze quantities and you will determine the unit.

03

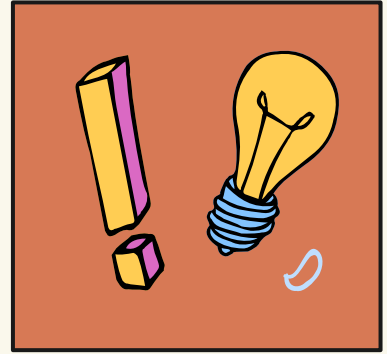
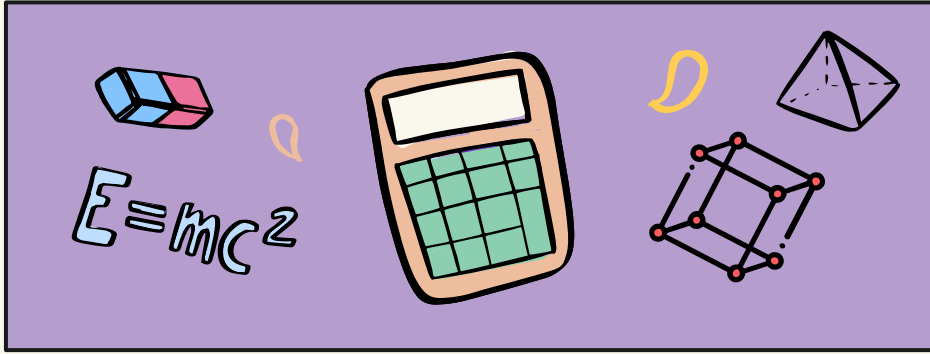
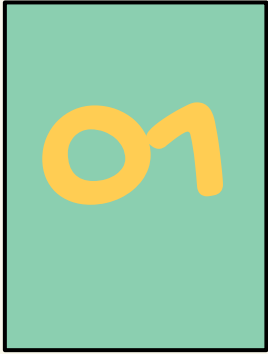
Graphic method

You will solve the tasks with the help of a graphic representation.

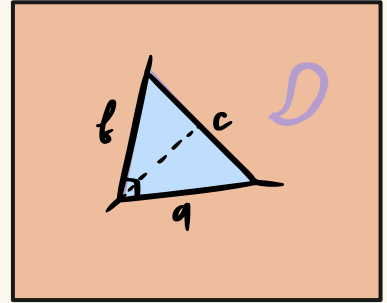
04

False assumption method

A funny way to solve a task by assuming that the objects are similar.



Unit reduction method



Let's discover it together!

Task 1:

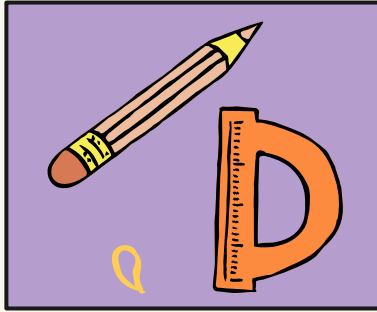


Ocna-Dej Salt Mine has extracted 48 wagons of salt during 4 days. How many wagons will be extracted during 6 days?



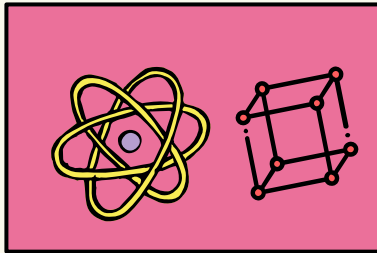
Unit reduction method

4 days



48 wagons

6 days



? wagons

The value of days' number increases.

The value of wagons will also increase.

Four fundamental interactions

4 days



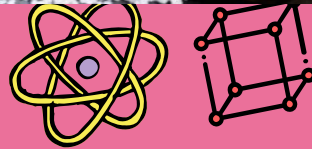
48 wagons

1 day



$48 : 4 = 12$ wagons

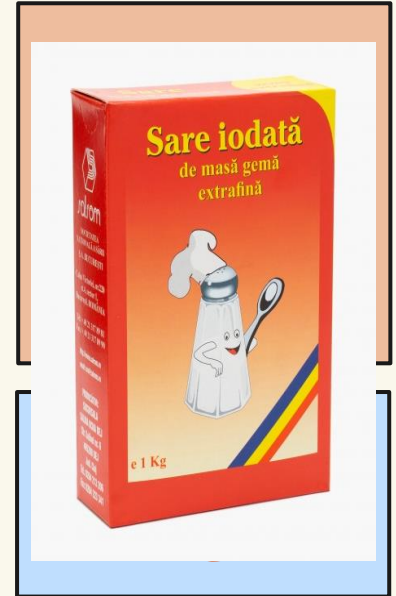
6 days

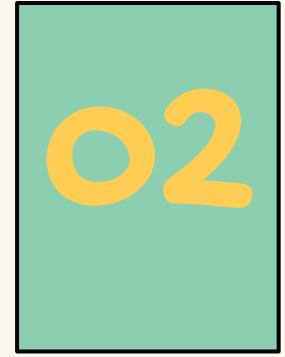
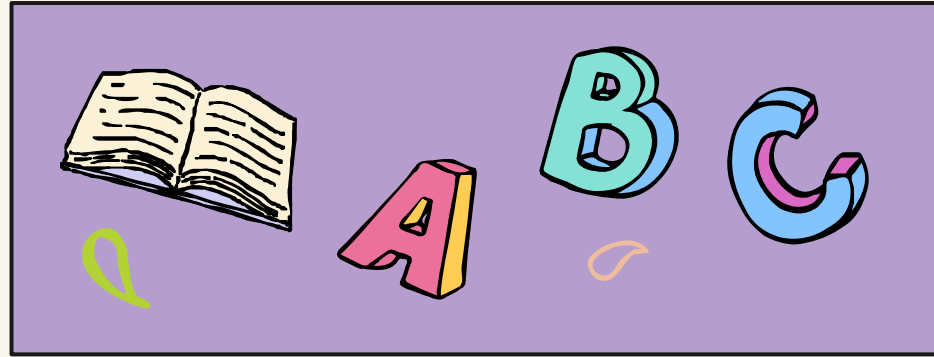
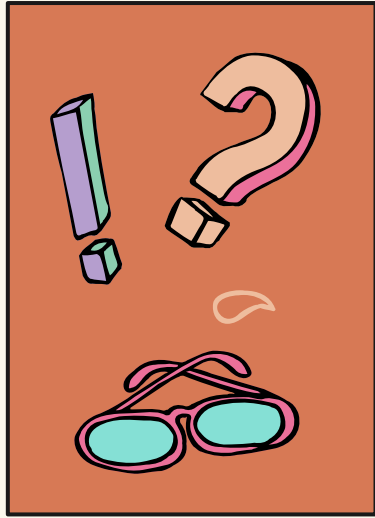


$12 \cdot 6 =$
72 wagons

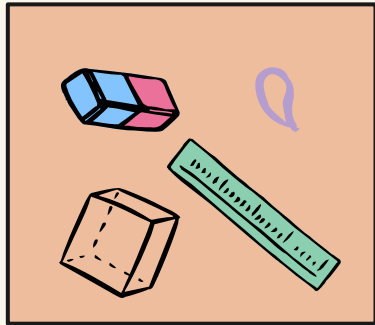
Other similar tasks (homework):

2. Anna took a box with 20 bags of salt, having the weight of 40 kg. She packed 15 bags of salt into another box. Find the weight of the second box!
3. For 10 cardboard box of salt the packing workshop used 20 g of glue. How much glue will be used for 3000 cardboard boxes?





Comparison method



Let's discover another method!

Second Task:

4. The packing workshop from Ocna-Dej Salt Mine prepares bags of salt with iodine and pure salt bags.

If we buy 2 bags of iodine salt and 3 bags of pure salt, we pay 13 lei(Romanian currency). If we buy 3 bags of iodine salt and 4 bags of pure salt, we pay 18 lei. How much does it cost one bag of iodine salt and one bag of pure salt?



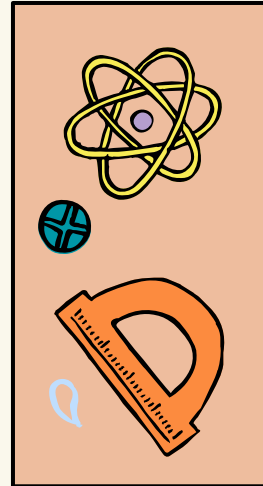
2 bags of iodine salt.....3 bags of pure salt.....13 lei | · 3
 3bags of iodine salt.....4 bags of pure salt..... 18 lei | · 2

We multiply the relations to obtain the same number of iodine salt bags.

6 bags of iodine salt.....9 bags of pure salt.....39 lei
 6 bags of iodine salt.....8bags of pure salt.....36 lei

We subtract similar values

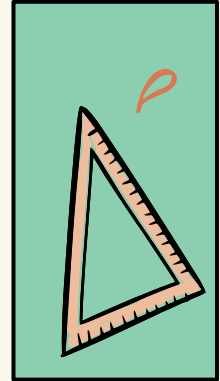
0 bags of iodine salt..... 9-8=1 bag of pure salt..... 39-36=3 lei
 3 bags of pure salt..... 3 ·3=9 lei





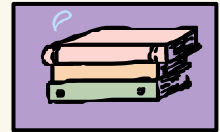
2 bags of iodine salt..... $13-9=4$ lei
1 bag of iodine salt..... $4:2=2$ lei

1 bag of iodine salt.....1 bag of pure salt..... $2+3=5$ lei



$$E=mc^2$$

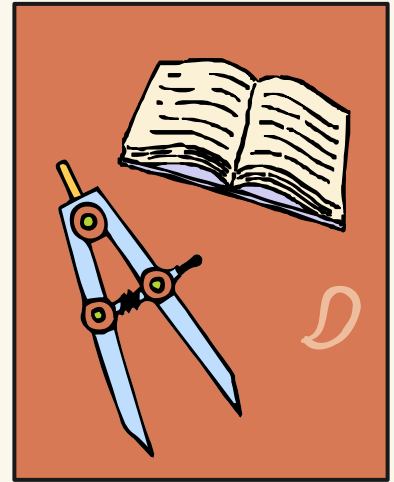
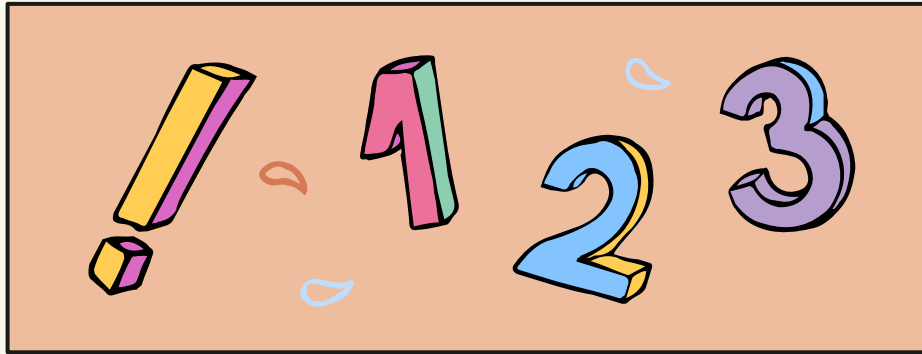
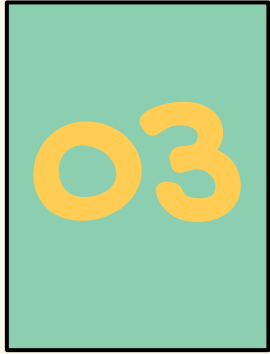
Conclusion!



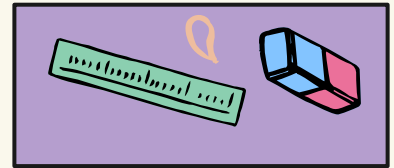
Similar Task (homework):

5) 10 bags of marine salt and 3 bags of iodine salt costs 29 lei. 3 bags of marine salt and 7 bags of iodine salt costs 28 lei. How much will cost a bag of marine salt and a bag of iodine salt?





3. Graphic method



Let's see another arithmetic method to solve tasks!



Task 6:

6. In two truck are loaded wit 38 tones of salt. If we move 3 tones from one truck to the other truck, both trucks have the same weight. Find the weight of each truck!



Task 6:



3

3

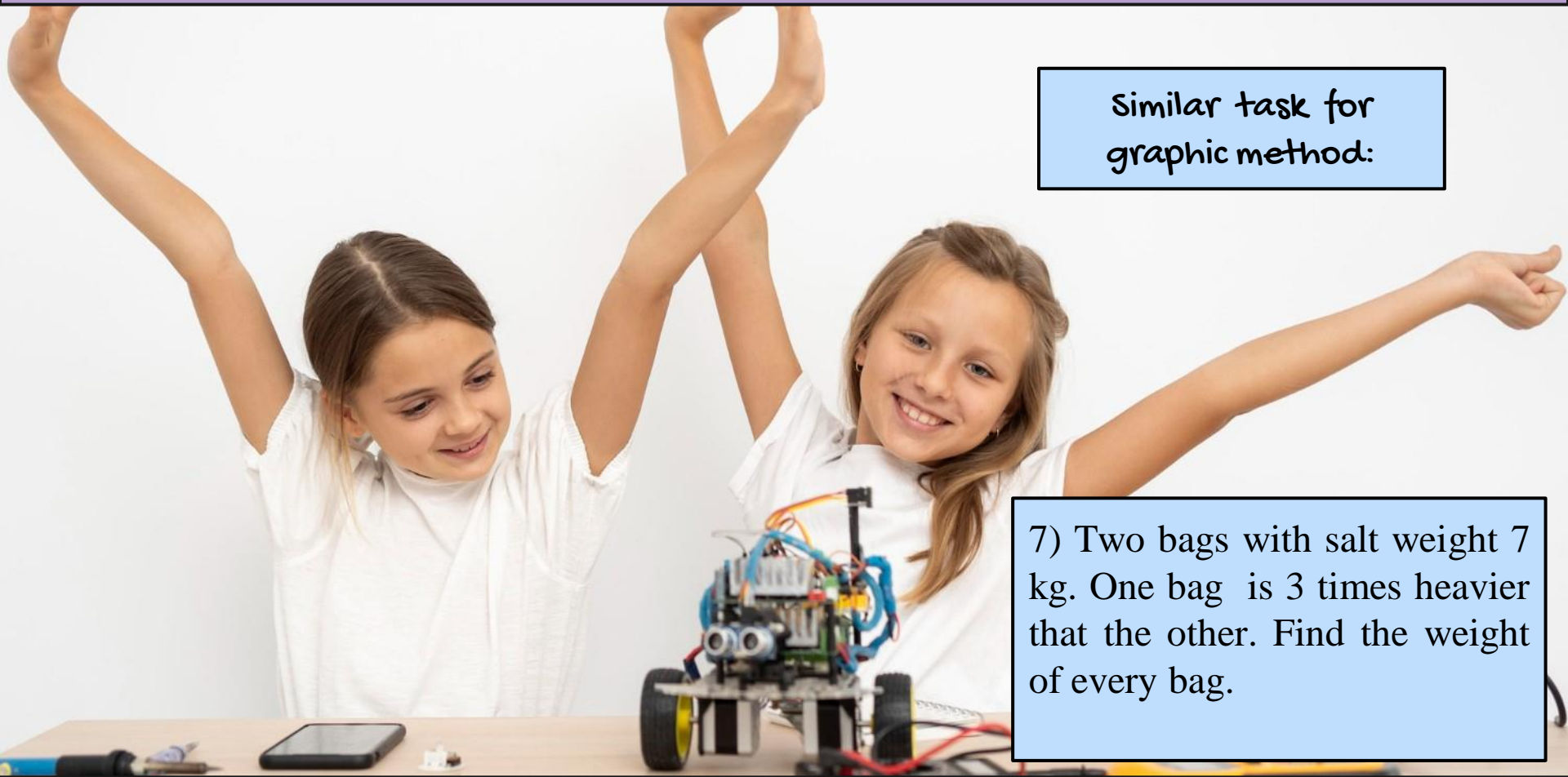


38 tones

$38 - (3 + 3) = 32$ tones are the equal parts together

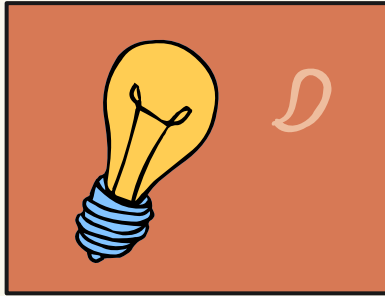
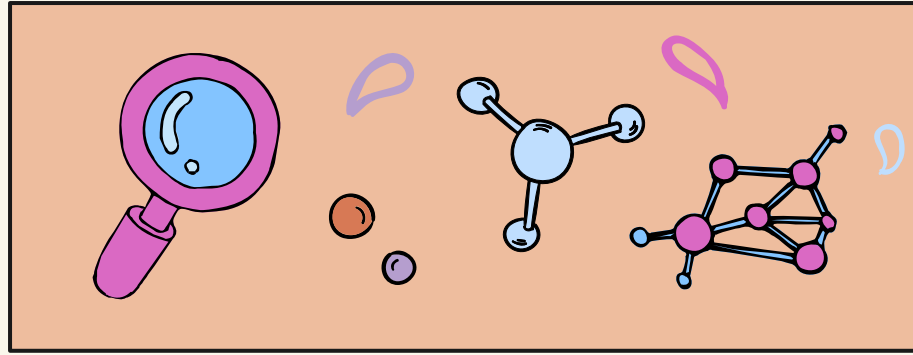
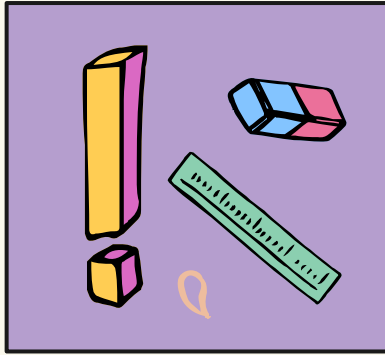
$32 : 2 = 16$ tones for the smallest truck

$16 + 6 = 22$ tones for the largest truck.



Similar task for graphic method:

7) Two bags with salt weight 7 kg. One bag is 3 times heavier than the other. Find the weight of every bag.



False assumption method

Let's be smart and have fun and be smart!

Fourth task:

8) On a rack there are 20 bags of salt, having 2 kg or 5 kg. The entire rack support 46 kg of loading. How many bags of every type there are?

We assume that all the bags have 2 kg.

$$20 \cdot 2 = 40 \text{ kg}$$

$$46 - 40 = 6 \text{ kg (difference)}$$

$$6 : (5 - 2) = 2 \text{ bags of 5 kg}$$

$$20 - 2 = 18 \text{ bags of 2 kg}$$





One of the biggest reasons why education is important is that it helps us become better versions of ourselves.

