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# Basic Methods Of Reconciling Issues Using A Geometric Method

**Gulhayo Bahodirovna Quzmanova**
Chirchik State Pedagogical University
Acting Associate Professor of the Department of Mathematics teaching methodology and geometry

**Annotation.** Word problems are one of the main concepts of the school mathematics course. In this article, solving text problems about concentration and mixing using the geometric method allows students to develop thinking, attention and observation, independently performing small studies, as well as their skills.
**Key words:** school, mathematics, geometric, graphic, word problem, education, solution, technology, student, method, innovation, teaching, learning.

## Geometrik Metod Yordamida Masalalarni Yeshishning Asosiy Uslublari.

**Gulhayo Bahodirovna Quzmanova**
Chirchiq davlat pedagogika universiteti
Matematika o‘qitish metodikasi va geometriya kafedrasi v.b dotsenti

**Annotatsiya.**Matnli masalalar maktab matematika kursining asosiy tushunchalaridan biri hisoblanadi. Biz mazkur maqolada konsentratsiyaga va aralashmaga doir matnli masalalarni geometrik metod orqali yechish o’quvchilarda fikrlash, diqqat va kuzatuvchanlik, kichik tadqiqotlarni mustaqil amalga oshirish, ko’nikmalarini rivojlantirish imkonini beradi.
**Kalit so’zlar:** maktab, matematika, geometrik, grafik, matnli masala, ta’lim-tarbiya, yechish, texnalogiya, o’quvchi, usul, innovatsiya, o’rgatish, o’qitish.
**Аннотация.** Текстовые задачи являются одним из основных понятий школьного курса математики. В данной статье решение текстовых задач о концентрации и смешении геометрическим методом позволяет учащимся развивать мышление, внимание и наблюдательность, самостоятельное выполнение небольших исследований, а также свои навыки.

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**Ключевые слова:** школа, математика, геометрическая, графическая, словесная задача, образование, решение, технология, ученик, метод, новация, обучение, обучение.

**Geometric method.** The process of searching for a solution and solving a problem as a geometric method is told to a method that is performed using the geometric construction of objects and the construction of suitable magnitudes . When using this method, the quantities included in the issue condition are drawn as accurately as possible according to their values.

The use of a geometric method of solving problems for students is based on the study of the essence and properties of the main concepts of planimetry (point, cross section, length, surface, triangle, rectangle, etc.) figures. Solving the problem with a geometric method is finding the answer to the problem requirement using the properties of geometric constructions or geometric figures. We solve the textual problem of the following action using the graphical method.

Issue. The distance from CITY A to City B is by bus per hour, and by car per hour. If the bus speed is less than the car speed by km/h, find the distance between the cities.

Solution: The car's travel time (4 hours) $OT_1$ is represented by the cross-section, and the velocity (its magnitude is unknown) *(OS)* is given by the cross-section. Then the rectangular face $OS_1O_1T_1$ corresponds to the distance between cities A and B.

The bus movement time (5 hours ) $OT_2$ cross section with is described , speed while ( his size unknown ) $OS_2$ cross section with .

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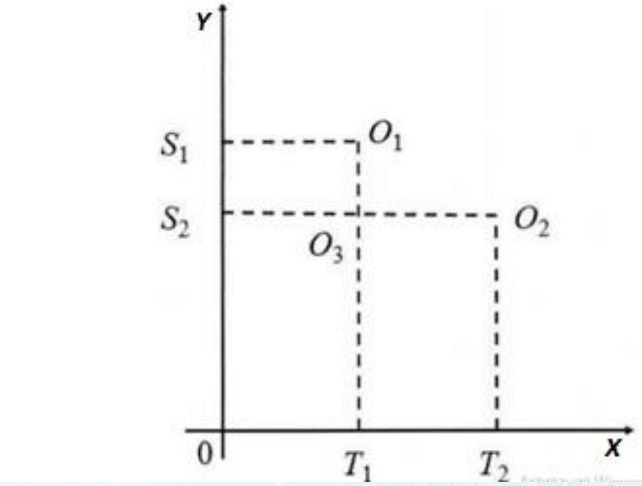


**1 . Problem solving graph.**

In this case, the distance between the cities A and B is determined by $OS_2O_2T_2$ a rectangle and an equal face of $OS_1O_1T_1$ the rectangle. The common part $OS_2O_3T_1$ of a rectangle and $OS_2O_2T_2$ a rectangle is therefore $S_2S_1O_1O_3$ and $T_1T_2O_2O_3$ the rectangle is congruent.

$S_1S_2 \cdot S_2O_3 = T_1T_2 \cdot T_1O_3$

$S_2S_1 = 20\,km/s$ S $_2$ O $_3$ = 4 hours , $T_1T_2$ = *1* hour take

$T_1O_3 = (S_2S_1 \cdot S_2S_3) \div T_1O_3 = (20\,km/s \cdot 4s) \div 1s = 80\,km/s$ the we find

$OS_1 = 80\,km/s + 20\,km/s = 100\,km/s$ she is without cities between distance

$100\,km/s \cdot 4s = 400\,km$ to equal to will be

Answer : A and B cities between the distance is 400 km.

Above as we have noted issue solve process into 8 steps is separated , this from stages issue solve method choose important stage is considered Makes sense thinking observability development for to the students one issue different methods with to solve to teach it is necessary

Eq make up solvable many textual issues geometric in the method solve can The issue is conditional reflection bringer of quantities and their mutual dependence expressive of the function graph image is made . Issues geometric method with solve two style with done is increased ; issues using and sure to make using ( constructive style ) or based on calculations with ( count method )

1. Constructive style . Graph method to the condition of the issue incoming sizes to the values according to directly possible as long as sure is drawn . To make circle , line with millimeter on paper will be done . Answer usually approx






will be but practical goals for enough will be : we him cuts lengths or don't draw another elements measure using we find or just from the drawing we will read the answer

2. Calculation method . ( graphic-calculation ). Graph being looked at sizes between contact conditional image as is used . Problem solution sure geometric relationships based on done is increased .

Textual issue graph method with solve three stage done is increased :

1. Problem graph module build
2. Received graph issue solve
3. Received the answer graph from the language natural to the language turn

To action circle issues in solving graph method apply Students have a problem with movement descriptive of bodies sure trajectories imagination to do abilities is developed . In this student of the body movement and him pressure passed way transition for gone time , speed between of relationships dependence deep reasoning does School mathematics in the chair to action circle issues are also important role plays . The following to action circle textual issue graph method taking off we will show .

*Problem* . A truck moving at a speed of 60 km/h left village A. After 2 hours, a light car started driving behind him at a speed of 90 km/h. At what distance from village A do cars chase each other?

Solution: It is known that the car started 2 hours after the truck started. Knowing the speeds of objects, we make a graph of motion. As you can see from the plot, the intersection of the graphs indicates that the cars meet. It happened at a distance of 360 km.

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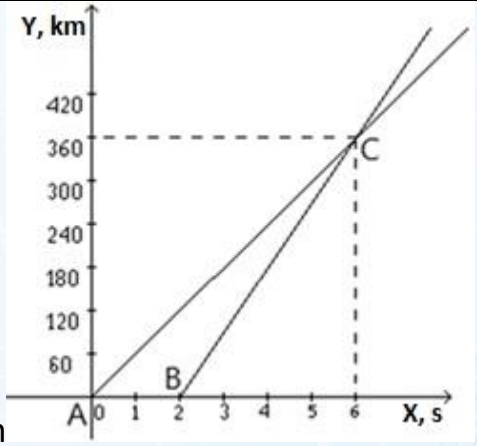
Answer: 360 km 


**Picture 2 . Problem solving graph.**

Solving textual problems related to movement in a graphic way helps students understand that mathematics is especially related to physical science and that speed, time, and distance quantities are related to each other.

School mathematics in the chair parameterized we also meet issues can of the issues to solve analytical ( algebraic ) method many calculations demand is enough , i.e. " the solution " don't lose " skill , parameter possible was all options check and etc demand is enough

Modern in life parameterized equations solve different education in institutions graduation and access of exams indispensable part is considered Matter. a to depends way $x^2 + x - a = 0$ equation how many solution have will be

Solution : Eq $x^2 + x = a$ $(OXY)$ coordinates in the system graph we draw and the equation we solve . Of this for given the equation for two we distinguish , that is $y = x^2 + x$ $y = a$ functions graph we draw $y = x^2 + x$ function graph drawing function of the tip coordinates $(x_0; y_0)$ and another some points we find That's why for $y = a$ function graph we draw In this two of the function intersection points equation the solution will be

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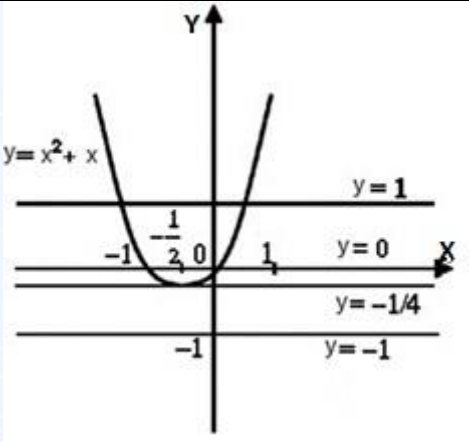


**Picture 3 . issue solve graph .**

Answer : If $a > -\frac{1}{4}$ if , the equation is 2 to the solution have will be $a = -\frac{1}{4}$ if equation one to the solution ; if $a < -\frac{1}{4}$ if equation to the solution have it wo n't be .

Thus, the advantage of the graphical method over the algebraic method is shown by the visualization of the solution, which allows a better understanding of the problem. The use of this method simplifies the solution of the problem. There is no complex calculation. The graph allows for the existence and uniqueness of the solution to the given problem gives There is a "negative" side; in uncertain scaling we get an approximate value or the solution is very difficult to find.

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