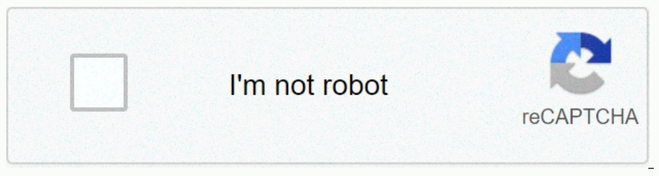

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Solving by substitution worksheet

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To use the substitution method, we use the following procedure: Select one of the two equations to start with decide on one of the variables in relation to the other Expression Substitute in the other equation You will get the value of one of the variables Replace this value in one of the original equations to get the value of the other variable. Let's set an example. Example: Solve the system by replacing \(- 8x + 5y = - 6\) \(- 3x + y = - 4\) Solution: We follow the first procedure. We want to choose one of two equations to begin with. We select the second equation because it is easier to solve the \(y\) variable in this equation. Solving \(y\) in the second equation gives us \(- 3x + y = - 4\) \(y = 3x - 4\) Continuing the procedure, we replace the expression \(3x - 4\) for \(y\) in another original equation. We have \(- 8x + 5y = - 6\) \ (- 8x + 5 \left ({3x - 4} \right) = - 6\) \ (- 8x + 15 x - 20 = - 6\) \(7x - 20 = - 6\) \(7x = 14\) \ (x = 2 \) We have received a value for one of the variables. We replace this value in one of the initial equations. We will replace it in the second original equation: \(- 3x + y = - 4\) \ (- 3 \ left (2 \right) + y = - 4\) \ \ y = 6 + y = - 4\) \ (y = 2 \) The solution is (2, 2) Another example: Solve the system by replacing \(7x + y = - 15\) \ (- 6x - 7y = - 24\) Solution: Here we choose to start working with the first equation, solving for \(y\). We have \(- 6x - 7y = - 24\) \ (- 6x - 7\left(- 7x - 15} \right) = - 24\) \ (- 6x + 49x + 2 0 105 = - 24\) \(43x + 105 = - 24\) \(43x = - 129\) \(x = - 3\) We replace this value in one of the initial equations. We choose the first equation. We have \(7x + y = - 15\) \(7\left({ - 3} \right) + y = - 15\) \(- 21 + y = - 15\) \(y = 6\) The solution is (-3, 6). Below you can download some free math worksheets and practice. Problem 1: system of linear equations by means of Check your response using graphs.4x + y = 8-3x + y = 1Problem 2 :Solve the linear equation system by replacing. Check your answer using graphs.x + Y = 82x + Y = 11Problem 3: Park fee $10 for adults and $5 for children. How many adult and children's tickets were sold if a total of 548 tickets were sold for a total of $3,750? Detailed Answer Key Issue 1 : Solve the system of linear equations by replacing. Check your response using graphs.4x + Y = 8-3x + y = 1Solution: Step 1:Solve equation for one variable. Select one of the equation, say -3x + y = 1.Solve for the variable y in relation to x. Add 3x on both sides. (-3x + y) + 3x = (1) + 3x - 3x + Y + 3x = 1 + 3xSplify. y = 1 + 3xStep 2 : Replace the expression y in the other equation and solve.4x + y = 84x + (1 + 3x) = 8Combin terms. 7x + 1 = 8Subtract 1 on both sides.7x = 7Divide and both sides 7. 7x / 7 = 7 / 7x = 1Step 3: Replace the x value we received above (x = 1) in one of the equations and solve other variables, y.4x + y = 84 (1) + y = 84 + y = 8 + y = 8Subttrac 4 on both sides.y = 8 S, the system solution is (1, 8). Step 4 : Check the solution using the schedule. To depict the equations, write them in the form of slope-blocks. That is, Y = mx + b 4x + Y = 8y = - 4x + 8Slope = - 4y-intercept = 8 -3x + y = 1y = 3x + 1Slope = 3Y-intercept = 1 Crossing point is (1, 4). Problem 2 :Solve the linear equation system by replacing it. Check your answer as graph.x + Y = 82x + Y = 11Solution : Step 1:Solve equation for one variable. Select one of the equation, say x + y = 8.Solve for the variable y in relation to x. Subtract x on both sides. (x + y) - x = (8) - xx + y - x = 8 - xSimplify. y = 8 - xStep 2 : Replace the expression y in the other equation and solve.2x + y = 112x + (8 - x) = 11 Kobyn-like terms. x + 8 = 11Subtract 8 on both sides.x = 3Step 3: Replace the x value we received above (x = 3) in one of the equations and solve other variables, y.x + y = 83 + y = 8Subtract 3 on both sides.y = 5Hence, the system solution is (3, 5). Step 4 : Check the solution using the schedule. To depict the equations, write them in the form of slope-blocks. That is, Y = mx + b x + Y = 8y = - x + 8Slope = - 1g-intersection = 8 2x + y = 11y = -2x + 11Slope = -2Y-intercept = 11 The crossing point is (1, 4). Issue 3: The park charges $10 for adults and $5 for children. How many adult and children's tickets were sold if a total of 548 tickets were sold for a total of $3,750? Solution: Step 1: Let x be the number of adult tickets and y be the number of children tickets.No. adult tickets + No. of children = Totalx + y = 548 -------- (2) Step 2: Write an equation representing the total price. X price no. tickets for adults = 10xCost of y no. on children's tickets = 5yTotal costs = $3750Then, we have 10x + 5y = 3750 Divide both sides of 5.2x + y = 750 -------- (2) Step 3 : Solve equation for one variable. Select one of the equation, say x + y = 548.Solve for the variable y in relation to x. Subtract x on both sides. (x + y) - x = (548) - xy = 548 - xStep 4: Replace the expression y in the other equation and solve.2x + y = 7502x + (548 - x) = 750Combin-like terms. x + 548 = 750Subtract 548 on both sides.x = 202Step 5: Replace the x value, we received above (x = 202) in one of the equations and solve the other variable, y.x + Y = 548202 + y = 548Subtract 202 on both sides.y = 346Th, the system solution is (202, 346). Step 6: Interpret the solution in the original context. So, the number of tickets for adults sold is 202, and the number of children's tickets sold is 346. Besides the things given above, if you need other things in math, please use google custom search here. If you have any feedback on our mathematical content, please email us: v4formath@gmail.com always appreciate feedback. You can also visit the following web pages of different things in mathematics. Word problemsHCF and LCM word problemsSchedule problems of simple equations Word problems of linear equations Word problems on square equationsTaking problems word on trainsTey and perimeter word issuesDenses problem of direct variation and reverse variant Word problems per unit priceW problems rate word problems when comparing ratesConverting the usual units word problems Convert metric word problemsSending problems with simple interest problems of complex problems with interestCreate types of angles Additional and additional anglesTemblets of wordsDwar facts word problemsTrigo word problemsPercentration word problems Gain and loss word problems Markap and markdown word problems Decimal word problemsLie problems of fractional problemsSizing problems of mixed fractrionsOne step equation word problemsLinear inequalities word problemsRatio and proportion word problems and problems of work wordSlow problems set and ven chartsProperty problems of agesPiore theorem word problemsRelie a number of word problems of constant speedWord problems on average speed Problems of speed The sum of the triangle angles is 180 degreeOther topics gain and loss of shortcutsDomain and range of rational functionsDomain and a range of rational functions with holesGraphing rational functions with holesConvert repetitive repetitions in partsdeical representation of rational numbersDiscovering the root per square using a long divisionL.C.M method of problem solving time and operationRegebrating the word problems in algebraic expressionsRemainder when 2 power 256 is divided into 17Remainder when 17 power 23 is divided into 16Sum by all three-digit numbers, 6Sum by all three digits, which is divided by 7Calculation of all three digits , dividing 8Sum of all three digits formed with 1, 3, 4Sum of all three four digits formed with non-zero digitsI am of all three four digits formed using 0, 1, 2, 3Sum of all three four digits formed using 1, 2, 5, 6 copyrights onlinemath4all.com SBI! 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