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Solving for x logarithms worksheet

Learning from home Teacher chaptersExportation 1Exrcise 2 Exercise Solution 1 Exercise Solution 2Solving logarithmic equations.1 2 3 4 5 Exercise 2Solve logarithmic simultaneous equations.1 2 3 Solve logarithmic equations.1 Apply the logarithmic power rule here, The following expression will be specified:Write the two terms on the left side as a single registry function by applying the logarithm product rule :P who both sides of the equation have log functions, so you can write the resulting expression without them like this:Set the equation equal to 0 by assuming the left side of the equation:The previous fraction can be written as:O o So, or 2 Apply the logarithm power rule to write the previous expression as:Apply the logarithm quotient rule on the left side of the equation :Cancel log functions on both sides of the equation and we solve the resulting equation algebraically:Take 2 on the left side of the equation:If we replace in the original equation, we will end up taking the negative number log which is impossible. So, this equation has no solution.3 Taking the factors from the right side of the equation on the left side and setting the equation to 0, we get the following expression:Suppose Substituting the value in the equation, we get the following new equation:We'll take into account the previous equation by expanding it and writing the factors into two pairs like this :O o So, t = 1 or t = -2Recognise that we assumed, so we can say that either converting the above values into exponential form, we get the following values of : and 4 Let's apply the power rule here to write the equation as follows:Cancel log functions on both sides of the equation to get the following algebraic expression:Use the formula to expand the right side of the equation:5 Take the expression from the denominator onwards left side of the numerator on the side Right of the equation:Apply the logarithmic power rule here to get the following equation:Cancel log functions on both sides of the equation and solve the resulting equation algebraically:Find expression factors above by expanding it:So, or 2 Solve logarithmic concurrent equations.1 Use the logarithm product rule on the left side of the equation:In exponential form, it can be written as :Replace this value of in the second equation:Use the quadratic formula to find the value of :2 Apply the logarithm product rule on the left side of the equation:Cancel the log function on both sides of the equation:Replace this value in the second equation: and Then, or If , then If then 3 We can rewrite the second equation using the exponent product rule :Suppose and we will solve this equation through the this value of in the second equation:Put this value of in the first equation to get the value of :Remember that and So, and Since, 2 raised to the power 2 is equal to 4, then the value value . Similarly, 3 raised to power 3 equals 27, so. Need to find a math tutor? Did you like the article? 5.00/5 - 1 vote/i Loading... Logarithmic worksheets for high school students cover skills based on the conversion between logarithmic form and exponential form, evaluation of logarithmic expressions, search for the value of the variable to correct the equation, resolution of logarithmic equations, single logarithm, expansion of the logarithm using power rule, product rule and quotient rule, expressing the register value in algebraic expression, logarithms using the calculator, and more. Explore some of these exercises for free! Resolve for x :1) log2x = 1/22) log1/5x = 33) logx125√5 = 74) logx0.001 = -35) log5(5log3x) = 26) x + 2log279 = 07) If 2logx = 4log3, then find the value of x. 8) If 3x equals log(0.3) at base 9, then find the value of x. Resolve x :9) log5 √(7x - 4) - 1/2 = log5 √(x + 2)Resolve x :10) log3x + log9x + log81x = 7/4 Step-by-step response (1): log2x = 1/2Convert exponentially. x = 21/2x = √2Answer (2) :log1/5x = 3Converts in exponential form. x = (1/5)3x = 13/53x = 1/125Answer (3) :logx125√5 = 7Converts in exponential form. 125√5 = x7 5 - 5 - 5 - √5 = x7Each 5 can be expressed as (√5 - √5). Then,√5 - √5 - √5 - √5 - √5 - √5 - √5 = x7√57 = x7Why the exponents are equal, the bases can be equated. x = √5Answer (4) :logx0.001 = -3Converts to exponential form. 0.001 = x-31/1000 = 1/x3 Reciprocaltake on both sides. 1000 = x3103 = x3Why the exponents are equal, the bases can be equated. 10 = xAnswer (5) :log5(5log3x) = 2Converts in exponential form. 5log3x = 525log3x = 25Divide per side of 5.log3x = 5Converts in exponential form. x = 35x = 243Answer (6) :x + 2log279 = 0x = -2log279x = log279-2Convert in exponential form. 27x = 9-2(33)x = (32)-233x = 3-4Why the bases are equal, the exponents can be equated. 3x = -4x = -4/3Aerea (7): 2logx = 4log3Divide each side from 2.logx = (4log3) / 2logx = 2log3logx = log32logx = log9x = 9Answer (8): From the information provided, we3x = log9(0.3)Resolve by x. 3x = log9(1/3)3x = log91 - log933x = 0 - log933x = - log933x = - 1 / log393x = - 1 / log3323x = - 1 / 2log333x = - 1 / 1 / 1 2(1)3x = -1/2x = -1/6Answer (9) :log5 √(7x - 4) - 1/2 = log5 √(x + 2)Subtract log5 √(x + 2) from each side. log5 √(7x - 4) - log5 √(x + 2) - 1/2 = 0Add 1/2 to each side. log5 √(7x - 4) - log5 √(x + 2) = 1/2Use the quotient rule.log5[√(7x - 4) / √(x + 2)] = 1/2Convert in exponential form. [√(7x - 4) / √(x + 2)] = 51/2 (7x - 4) / (x + 2) = √5 Square per side. (7x - 4) / (x + 2) = 5 Multiply each side by (x + 2). 7x - 4 = 5 (x + 2)7x - 4 = 5x + 10Subtract 5x on each side.2x - 4 = 10Add 4 on each side.2x 2x = 14Divide each side of 2.x = 7Wer (10) :log3x + log9x + log81x = 7/4(1 / logx3) + (1 logx9) + (1 / logx81) = 7/4(1 / logx3) + (1 / logx9) + (1 / logx81) = 7/4(1 / logx3) + (1 / logx32) + (1 / logx34) = 7/4(1 / logx3) + (1 / 2logx3) + (1 / 4logx3) = 7/4(4 / 4logx3) + (2 / 4logx3) + (1 / 4logx3) = 7/4(4 + 2 + 1) / / = 7/47 / 4logx3 = 7/4Multiplize each side of 4/7.1 / logx3 = 1log3x = 1Convert in exponential form. x = 31x = 3 Apart from the things provided above, if you need other things in math, use our custom Google search here. If you have any feedback on our mathematical content, send us an email: v4formath@gmail.com we always appreciate your feedback. You can also visit the following web pages about different things in math. SPEECH PROBLEMSI problems with HHCF and LCM wordsCriminations on simple equations Word problems on linear equations Word problems on quadratic equationsAlgebra word problems On trainsVersion of perimeter word problemsCondi word word problems word problems on direct variation and inverse variation Word problems on unit price Word criteria on unit rate Word problems on rate comparisonConvert customary units Word problems Converting metric units word problems Word problems On simple interests Pun problems on compound interest Puns on types of corners Complementary and supplementary angles Doubled Word problemsTrigonometry Word problemsFor a word problem Problems of profits and loss of words Word and markdown problems decimal wordsCrime policies On fractionsMid fractal word policiesA passing equation Word problemsLine word problemsAdditional issues and proportions Word problemsTime and word problemsMlear problems on sets and diagrams Venn. on the sum of the corners of a triangle is 180 degreeSCHOOTHER TOPICS Profit and loss shortcuts Profit choiceTime table shortcuts. speed and distance shortcuts Speed and proportion shortcutsDomains and range of rational functionsDomain and range of rational functions with holesSigning rational functionsAllacing rational functions with holesConverting repeating decimals into fractionsPresentationdecimal of rational numbersFinding the square root using long divisionThe.C.M method to solve time and work problemsTranslate speech problems in to algebraic expressionsbricheRemainder when 2 power 256 is divided by 17Remainder when 17 power 23 is divided by 16Ssum of all three digit numbers divisible by 6Ssum of all three digit numbers divisible by 7Society of all three digit numbers divisible by 8Ssum of all three format numbers using 1 , 3 the committee for the , 4Ssum of all three four-digit numbers formed with non-zeroSsum digits of all three four-digit numbers formed using 0, 1, 2, 3Ssum of all three four-digit numbers formed using 1, 2, 5, 6 copyright onlinemath4all.com SBI! Learning from home Teacher chaptersExportation 1Exrcise 2 Exercise Solutions 1Soucination 2Solving logarithmic equations.1 2 3 4 5 Exercise 2Solve logarithmic simultaneous equations.1 2 3 Solve logarithmic equations.1 Applying the logarithmic power rule here, The following expression will be given:Write the two terms on the left side as a single log log function logarithm product rule:Since both sides of the equation have log functions, so that you can write the resulting expression without them like this:Set the equation equal to 0 assuming the left side of the equation:The previous fraction can be written as:O o So, , or 2 Apply the logarithmic power rule to write the previous expression as:Apply the logarithm quotient rule on the left side of the equation:Undo log functions on both sides of the equation and solve the resulting equation algebraically:Take 2 on the left side of the equation:If we replace in the original equation, we will end up taking the negative number log which is impossible. So, this equation has no solution.3 Taking the factors from the right side of the equation on the left side and setting the equation to 0, we get the following expression:Suppose Substituting the value in the equation, we'll dare the following new equation:We'll factor in the previous equation by expanding it and writing the factors in two pairs like this:O o So, t = 1 or t = -2Remember that we assumed, so we can say that either converting the above values into exponential form, we get the following values of : and 4 We apply the power rule here to write the equation as follows:Cancel log functions on both sides of the equation to get the following algebraic expression :Use the formula to expand the right side of the equation:5 Take the expression from the denominator on the left side to the numerator on the right side of the equation:Apply the rule here logarithmic power to get the following equation:Cancel log functions on both sides of the equation and solve the resulting equation algebraically:Find expression factors above by expanding it:So, or Exercise Solution 2Solve logarithmic simultaneous equations.1 Use the logarithm product rule on the left side of the equation:Exponentially , can be written as:Replace this value in the second equation:Use the quadratic formula to find the value of :2 Apply the logarithm product rule on the left side of the equation :Cancel the log function on both sides of the equation:Replace this value in the second equation: and Then, o If , then If then 3 We can rewrite the second equation using the product rule of the exponent:Suppose and we will solve this equation through substitution:Replace this value of in the second equation:Put this value of in the first equation to get the value of :Remember that and Hence, and Since, 2 raised to the power 2 is equal to 4, then the value of . Similarly, 3 raised to power 3 equals 27, so. Need to find a math tutor? Did you like the article? 5.00/5 - 1 vote/i Loading... vote(s)Loading...

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