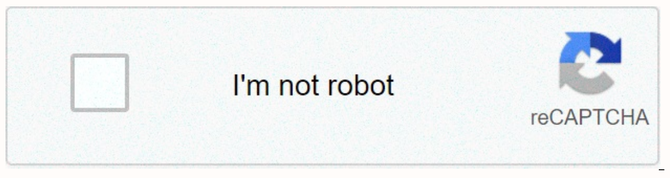

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Logarithm problems and solutions for class 11 pdf

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Free practice math for Saturday, ACTand Compass Math TestsReview1) One of the most important characteristics of logarithmic and exponential functions is that they are opposite to each other so we can convert exponential and logarithmic expressions using the following:y = journal b (x) ⇔ x =b y where the ⇔ symbol means equivalent, y is the exponent, in is the basis so that b> 0, b ≠ 1 and x > 0systry examples: 2 = journal 3 (9) ⇔ 9 = 3 2 2) properties of logarithmic and editing functions) if b x = b y then x = y = ynswer) if logb x = logb y then x = yAnswer QuestionsChange the logar expressions given into exponential expressions:a) logx (a) = cb) logb (2x + 1) = 3Change the exponential expressions given into logarithmic expressions :a) 3x =mb) x2 = aEvaluate , without calculator, it tracks logarithmic expressions:a) log2 16b) log3 27c) log2 (1/32)d) log25 5e) Log √(10)f) logb 1, with b> 0 and b ≠ 0g) log0.1 10hall for x the following logarithmic equations:a) log2 x = 3b) logx 8 = 3c) log3 x = 1d) log5.6 x = 0e) log2 (3x + 1) = 4f) log3 (1/(x + 1)) = 2g log4 ((x + 1)/(2x - 1)) = 0h) log (1/x + 1) = 2i) journal 0.0001 = 4Solve for x the following estimated equations:a) 3 x = 9b) 4 2x + 1 = 16c) (1/ 2) x = 2d) 10 x = 5e) (1/ 3) x/2 - 2 = 9f) 0.01 x = 100g) 22x - 6(2x) = - 8 discounts for questions aboveSSolutionUse the corresponding expressions : y = journal b (x) ⇔ x = b y write) logex (a) = c as exponential = x cb) logb (2x + 1) = 3 as exponential 2x + 1 = b 3SolutionUse the corresponding expressions x = b y ⇔ y = log b (x) write) 3x = m as logarithm x = journal 3 (m)b) x2 = as log 2 = log x (a)SolutionUse the corresponding expressions : y = journal b (x) ⇔ x = b y Evaluate the following without calculator:a) Give y = log2 16convert to exponential form: 2 y = 16 = 2 4, which gives 2 y = 2 4hence using property 2 a) above if 2 y = 2 y = 4mechan : y = log2 16 = 4b) Give y = log3 27This switch to exponential form: 3 y = 27 = 3 3, which gives 3 y = 3 3hence using property 2 a) above if 3 y = 3 3 then y = 3mechan: y = log3 27 = 3c) Give y = log2 (1/32)Convert to exponential form : 2 y = 1 / 32 = 1 /(2 5) = 2 -5, which gives 2 y = 2 -52 y = 2 -5 gives y = -5mechan y = log2 (1/32) = -5d) Give y = log25 5convert to exponential form : 25 y = 5 = √(25) = 25 1/2 which gives 25 y = 25 1/2hence y = log25 5 = 1/2e) Give y = √(10) ; Conversion to exponential form: 10 y = √(10) = 10 1/2, hence y = √(10) = 1/2f) Give you logb 1 , (with b> 0 and b ≠ 0) ; Convert to exponential form: b y = 1 = b 0, hence y = logb 1 = 0g) Give y = log0.1 10; Convert to exponential form: 0.1 y = 10 = 1 / 0.1 = (0.1) -1, hence y = log0.1 10 = -1SolutionUse the corresponding expressions : y = journal (x) ⇔ x = b y resolve for x the next logied equation:a) 2 x = 3 logs; Convert to exponential form: x = 2 3 = 8b) Journal 8 = 3; Convert to exponential form: 8 = x 3, write 8 as 8 = 2 3; Hence x = 2c) journal 3 x = 1; Conversion to exponential form: x = 3 1 = 3d) log5.6 x = 0 ; Conversion to exponential form: x = 5.6 0 = 1e) log2 (3x + 1) = 4; Convert to Exponential form: 3x + 1 = 2 4 = 16 , Resolve for x: 3x + 1 = 16, 3x = 15, x = 5f) log3 (1/(x + 1)) = 2; Conversion to exponential form: 1/(x +1) = 3 2 = 9, resolve for x: 1/(x +1) = 9, 1 = 9x + 9, x = - 8 / 9g) log4 ((x + 1)/(2x - 1)) = 0; Convert to exponential form: (x + 1)/(2x - 1) = 4 0 = 1, resolve for x: (x + 1)/(2x - 1) = 1, x + 1 = 2x - 1, x = 2h) journal (1/x + 1) = 2; Convert to Exponential form: 1/x + 1 = 10 2 = 100 , Resolve for x: 1/x + 1 = 100, 1/x = 99, x = 1/99i) Journal 0.0001 = 4; Convert to exponential form: x4 = 0.0001 = 1/10000 = 1/104 = (1/10)4 which gives x4 = (1/10)4hence x = 1/10.SolutionUse the property: if: b x = b y then x = y to resolve the exponential functions:Note that in the equation above, the bases of two exponents are both equal a.a) 3 x = 9 = 3 2, hence x = 2b) 4 2x + 1 = 16 = 42, Which gives 4 2x + 1 = 42, Hence 2x + 1 = 2, x = 1 / 2c) (1 / 2) x = 2 = 1 / 2 -1 = (1/2) -1, which gives (1 / 2) x = (1/2) -1, hence x = - 1d) 10 x = 5, convert logarithm: x = 1 Journal 10 5 = Journal 5 (here we used conversion to solve the given equation)e) (1/3) x/2 - 2 = 9 = 3 2 = (1 / 3 -2) = (1 / 3) -2 which gives (1 /3) x/2 = (1/3) -2 hence : x/2 - 2 = - 2, x = 0f) 0.01 x = 100 = 10 2 = (1 / 10 -2) = (1 / 0.01) = 0.01 -1, which gives 0.01 x = 0.01 -1, Hence x = -1g) 22x - 6(2x) = - 8 Comment that 22x = (2x) 2.Let u = 2x and write u2 = (2x) 2 = 22x We now replace 2x by you and 22x by u2 in a given equation rewrite your terms only in the standard equation form follows 2 - 6 u + 8 = 0Decoration of the square equation above by factoring:(u - 2)(u - 4) = 0 u: u = 2 and you = 4 We now solve for x using the swap made over:u = 2 = 2x, x = 1u = 4 = 2x = 2x = 22x x = 2 you can create tests and worksheets that can be printed from these class 11 logarithm questions! Select one or more questions by using the check boxes above each question. Then click Add selected questions to the Test button before going to another page. Previous page from 3 Next previous page out of next 3 (1) Give > 0 and b ≠ 1. Express y = bx logarithmically. Also specify the domain and range of the logarithmic function. Solution(2) Computing Log9 27 - log27 9 solve log8 x + log4 x + log2 x = 11 solution(4) solve log4 28x = 2log2 8 solution(5) if a2 + b2 = 7ab, Show journal (a +b) / 3 = 1/2 (posting + journal b) solution(6) prove that journal (a2/bc) + journal (b2/ac) + journal (c2/ab) = 0d solution(7) prove that log 2 + journal 1 6 Journal (16/15) + 12 Journal (25/24) + 7 Journal (81/80) = 1Solution(8) Prove that Solution(9) Prove Journal + Journal a2 + Journal a3 + · · · + Log = (n+1)/2) Log a. Solution(10) If log x/(y - z) = log y/(z - x) = log z/(x - y), then prove the xyz = 1. Solution(11) Solve for x: log2 x - 3log 1/2 x = 6 solution(12) Solve for x: log5-x (x2 - 6x + 65) = 2 Solution except for the things given above, if you need any other math things, please use our custom Google search here. If you have sea feedback on our math content, please send us : v4formath@gmail.com We always appreciate your feedback. You can also visit the following Web pages for different things in math. word problemsHCF and LCM word problems on simple equations Word problems linear equations Word problems on algebra equations Word problems on trains Word problems in the region and peripheral word issues Comparison on direct variation Reverse variation Word issues on unit price issuesSelack Problems on unit rate Word issues on comparing rates Conversion custom units Word problems Convert metric units Word problems Word problems on simple interest issues on compound interest issuesHam on types angles Complementary angles and complements word problems Duplicate facts Word trigonometry problems Word problems incentives word problems word problems gain and loss of word problems marking and marking word problems decimals word problems on fractions The word problems on word practices Phase one word problems linear inequality word problems wordrathio problems and word problems proportional time and word problems at work Troubleshooting word problems on sets and diagrams vennDeveloping agesThe word challenges Coordination problems Percentage of word problems Number of persistent speed problems Average speed problems Word on the sum of angles of a triangle is 180 degreesAfter issues space and shortcuts to loss Shortcuts to table shortcuts Time , speed shortcuts and research shortcuts to retio and proportional shortcuts Control and a variety of rational functionsContraction and a variety of rational functions with holes Photograph rational and graphic functions with holesConvert decimal digits return to the fractures Rational representation of rational numbersProdition of a square through long divisionL. C.M troubleshooting time and work Translating word problems into algebraic expressionsSing when 2 Power 256 is divided into 17Remainder when 17 Power 23 is divided into 16Sum of all Numerals are divided by 6Sum of all three numbers with numbers in 7Sum of all three-digit numbers divided by 8Sum of all three-digit numbers created by using 1, 1, 2, 3Sum of all three four-digit numbers created with 1 2, 5, 6 copyright onlinemath4all.com SBI! View more loading of additional solutions... Get this solution now! Download pdf or app free solution get now! In mathematics, the researchers used bloggers to change division and multiplication problems for subtraction and addition problems, even before the account was discovered. Logarithm To get a specific number, the force is raised to a specific number which is usually a base number. Logarithmic functions are the opposite of exponential functions, and you can express any exponential function in a logarithmic way. Similarly, the entire logarithmic function is exponentially rewrited. When you want to work with logarithms, very large numbers are useful for handling numbers that are much more manageable. In this section, we'll discuss the definition, formula, and functions in detail along with some examples. Logarithmic functions DefinitionA logarithm is a specially written exponent. For example, we know that the following evaluator equation is correct $3^2 = 9$. Here the exponent is 2 and the base is 3. In the logarithmic form, we write the equation as log3 9 = 2. In words, we say this as a 9 to base 3 is 2. This is where we effectively moved the exponent to the main line. This is done to make division and multiplication easier, but still, logarithms are very useful in mathematics. Logarithmic function is defined as f (x) = logb x. In real life, there are as many logarithmic applications as in electronics, earthquake analysis, acoustic, and population prediction. Introduction to a common and natural logarithmic function Logarithmic function A logarithm with base 10 is a common logarithm. In our number system, there are ten bases and ten digits from 0-9, where the value of the place is determined by groups of ten. You can remember common logarithms with the one commonly founded as 10. Natural logarithmic function and different natural logarithm. Where the base of the common logarithm is the 10 basis of a natural logarithm is number e. Although e represents a variable it is an irrational constant number equal to 2.718281828459. Sometimes e is also known as the number of Ayler or Napier's constant. The letter E was chosen to honor mathematician Leohard Euler. e looks complicated but is a pretty interesting number. The f (x) = loge x function includes multiple applications in business, economics, and biology. e is an important number. Properties of loglogb general product functions (MN) = logb (M) + logb (N)This property indicates that a product logarithm is the sum of the logs of its causes. Multiply two numbers with the same base, and then add exponentsExample: Journal 20 + Journal 2 = Journal 40The Quotient RuleLogb (M/N) = logb (M) – logb (N)This property indicates that the packet log is the difference between the dividend journal and the identifier. Part two numbers with the same base and missed the exponent. Example: log6 54 – log6 9 = log6 (54/9) = log6 6 = 1logb (Mp) power law = p logb (M)The property indicates that a power log is the logarithm double exponent of the power base. Raise exponential expression to power and multiply exponential log4 (2) = log5 (24) = log5 (16)Rule zero estimates Loga 1 = 0Change baselogb rule (x) = x / b or logb (x) = log10 x / log10 bsome Other logsome properties The following are: logb (xy) = logb x + logb ylogb (x/y) = logb x – logb ylogb (xr) = rlogb xif logb x = logb ylachan x = yExamples of logarithmic functions1. Write the edited equation logarithmically52 = 254-3 = 1/64(1/2)-4 = 16This isolation: A. 52 = 25 becomes 2 = log5 25 b. 4-3 = 1/64 becomes -3 = log4 (1/64) c. (1/2)-4 = 16 becomes -4 = log(1/2) 162. Write a logarithmic equation in exponentially. log6 36 = 2b. loga m = psolution: a. log6 36 = 2 being 62 = 36 b. loga m = p becomes ap = m3. Solve the following equations. log7 49 = yb. log2 (1/8) = ysolution: a. log7 49 = y becomes 7y = 49 since, 49 = 72 7y = 72 so, y = 2 b. log2 (1/8) = y becomes 2y = 1/8 since, 1/8 = 2-3 2y = 2-3 so, y = -3 -3