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You can use our least common denominator calculator to find the least common denominator of a set of fractions so that you can easily perform arithmetic operations on fractions like addition or subtraction. It can handle both simple and mixed fractions! Want to know how to find the least common denominator? In the following article, we shall walk you through some fundamentals, such as: What is the least common denominator? Calculating the least common denominator for fractions. Relation between least common denominator, least common multiple, and greatest common factor. The least common denominator (LCD) is the least common multiple (LCM) of all the denominators in a given set of fractions. For example, consider the fractions 23\frac{2}{3}32 and 34\frac{3}{4}43. At one glance, we cannot tell which is the largest or the smallest because comparisons (and arithmetic operations) on fractions are only valid if they share the same denominator. To make this happen, let's find their LCD. The least common denominator of 23\frac{2}{3}32 and 34\frac{3}{4}43 is 12, since the LCM(3,4) is 12. Our fractions then become 812\frac{8}{12}128 and 912\frac{9}{12}129. We can add, subtract, or compare them to our hearts' content! Finding the least common denominator requires us to calculate the least common multiple of the denominators.LCD(ab,cd)=LCM(b,d)=b·dGCF(b,d)LCD\left(\frac{a}{b}, \frac{c}{d}\right) = LCM(b,d) = \frac{b \cdot d}{GCF(b,d)}LCD(ba,dc)=LCM(b,d)=GCF(b,d)b·dWhere: LCDLCDLCD - Least common denominator of two fractions; a,ca, ca,c - Numerators of the two fractions; b,db, db,d - Denominators of the two fractions; LCMLCMLCM - Least common multiple of the two denominators; and GCFGCFGCF - Greatest common factor of the two denominators. After finding LCD, we must calculate equivalent fractions of the original fractions such that their denominators are equal to the LCD. We can achieve this by:ab=ab×dGCF(b,d)dGCF(b,d)=a·dGCF(b,d)b·dGCF(b,d)cd=cd×bGCF(b,d)bGCF(b,d)=c·bGCF(b,d)d·bGCF(b,d)\frac{a}{b} = \frac{a}{b} \times \frac{\frac{d}{GCF(b,d)}}{\frac{d}{GCF(b,d)}} =\frac{\frac{a \cdot d}{GCF(b,d)}}{\frac{b \cdot d}{GCF(b,d)}} \\[1em] \frac{c}{d} = \frac{c}{d} \times \frac{\frac{b}{GCF(b,d)}}{\frac{b}{GCF(b,d)}} = \frac{\frac{c \cdot b}{GCF(b,d)}}{\frac{d \cdot b}{GCF(b,d)}}\\ ba=ba×GCF(b,d)dGCF(b,d)d=GCF(b,d)b·dGCF(b,d)a·ddc=dc×GCF(b,d)bGCF(b,d)b=GCF(b,d)d·bGCF(b,d)c·bThis may look complex, but it's easier to understand with an example. Let's find the sum of the fractions 38\frac{3}{8}83 and 512\frac{5}{12}125: The LCD of 38\frac{3}{8}83 and 512\frac{5}{12}125: LCD(38,512)=LCM(8,12)=8·12GCF(8,12)=8·124=8·3LCD(38,512)=24\small \qquad \begin{align*} LCD\left(\frac{3}{8}, \frac{5}{12}\right) &= LCM(8,12)\\ &= \frac{8 \cdot 12}{GCF(8,12)}\\[1em] &= \frac{8 \cdot 12}{4} = 8 \cdot 3\\ LCD\left(\frac{3}{8}, \frac{5}{12}\right) &= 24 \end{align*}LCD(83,125)LCD(83,125)=LCM(8,12)=GCF(8,12)8·12=48·12=8·3=24 Rewrite our two fractions in their equivalent forms with the LCD as their denominator: 38=38×12GCF(8,12)12GCF(8,12)=38×124124=3·38·338=924512=512×8GCF(8,12)8GCF(8,12)=512×8484=5·212·2512=1024\small \qquad \begin{align*} \frac{3}{8} &= \frac{3}{8} \times \frac{\frac{12}{GCF(8,12)}}{\frac{12}{GCF(8,12)}}\\[1em] &= \frac{3}{8} \times \frac{\frac{12}{4}}{\frac{12}{4}} = \frac{3 \cdot 3}{8 \cdot 3}\\[1em] \frac{3}{8}&= \frac{9}{24}\\[1em] \frac{5}{12} &= \frac{5}{12} \times \frac{\frac{8}{GCF(8,12)}}{\frac{8}{GCF(8,12)}}\\[1em] &= \frac{5}{12} \times \frac{\frac{8}{4}}{\frac{8}{4}} = \frac{5 \cdot 2}{12 \cdot 2}\\[1em] \frac{5}{12}&= \frac{10}{24} \end{align*}8383125125=83×GCF(8,12)12GCF(8,12)12=83×412412=8·33·3=249=125×GCF(8,12)8GCF(8,12)8=125×4848=12·25·2=2410 The sum of the fractions 38\frac{3}{8}83 and 512\frac{5}{12}125: 38+512=924+1024=9+1024=1924\small \qquad \begin{align*} \frac{3}{8} + \frac{5}{12} = \frac{9}{24} + \frac{10}{24} = \frac{9+10}{24} = \frac{19}{24} \end{align*}83+125=249+2410=249+10=2419 Our least common denominator calculator is simple to use: Select the type of fraction. You can choose between: Simple fraction; and Mixed fraction. For simple fractions, enter the numerators and denominators of each fraction. You can enter up to five fractions in our LCD calculator. For mixed fractions, enter the whole numbers, numerators, and denominators of each fraction. Our calculator shall find the least common denominator along with the rewritten forms of the original fractions. If you wish to verify the calculation steps, choose yes in the step-by-step solution field. If you liked our least common denominator calculator, here are some other tools that are based on the same concept: For two fractions whose denominators are 4 and 6, the least common denominator is 12. The following steps will help you reach the same answer: List all common multiples of the denominators 4 and 6. 4: 4, 8, 12, 16, 20, 24, 28,... 6: 6, 12, 18, 24, 30, 36,... The least common multiple of 4 and 6 is 12. The least common denominator of 1/4 and 1/6 is 12. Verify your result with our least common denominator calculator. No. Adding or subtracting fractions requires the fractions to have the same denominator, whereas multiplying or dividing fractions has no such requirement. So you can multiply or divide fractions with different denominators. Ip4uIKA7uTs The denominator is the bottom number in a fraction. It shows how many equal parts the item is divided into ... Common Denominator? When the denominators of two or more fractions are the same, they have Common Denominators. it is the smallest of all the common denominators. Why? Why do we want common denominators? Because we can't add fractions with different denominators: 1 3 + 1 6 = ? Before we can add them we must make the denominators the same. Finding a Common Denominator But what should the new denominator be? One simple answer is to multiply the current denominators together: 3 × 6 = 18 So instead of having 3 or 6 slices, we will make both of them have 18 slices. The pizzas now look like this: 6 18 + 3 18 = 9 18 They now have common denominators (but not the least common denominator) (Read more about Common Denominators.) That is all fine, but 18 is a lot of slices ... can we do it with fewer slices? The Least Common Denominator will help us. Here is how to find it. First list the multiples of each denominator: 1 3 List multiples of 3: 3, 6, 9, 12, 15, 18, 21, ... 1 6 List multiples of 6: 6, 12, 18, 24, ... Now find the smallest number that is the same: multiples of 3: 3, 6, 9, 12, 15, 18, 21, ... multiples of 6: 6, 12, 18, 24, ... The answer is 6, and that is the Least Common Denominator. So instead of using 18 like before, we we can use 6 We want both fractions to have 6 slices: 1 3 can be multiplied (top and bottom) by 2 to get 2 6 1 6 already has a denominator of 6 And our question now looks like: 2 6 + 1 6 = 3 6 One last step is to simplify the fraction (if possible). In this case 3/6 is simpler as 1/2: 2 6 + 1 6 = 3 6 = 1 2 And that is what the Least Common Denominator is all about. It lets us add (or subtract) fractions using the least number of slices. The trick was to list the multiples of each denominator, then find the Least Common Multiple In the previous example the Least Common Multiple of 3 and 6 was 6. In other words the Least Common Denominator of 1 3 and 1 6 is 6. Here are the steps to follow: Find the Least Common Multiple of the denominators (which is called the Least Common Denominator) Change each fraction (using equivalent fractions) to make their denominators the same as the least common denominator Then add (or subtract) the fractions, as we wish! The Denominators are 6 and 15: multiples of 6: 6, 12, 18, 24, 30, 36, ... multiples 15: 15, 30, 45, 60, ... So the Least Common Multiple of 6 and 15 is 30. Now let's try to make the denominators the same. Note: what we do to the bottom of the fraction, we must also do to the top For the first fraction we can multiply top and bottom by 5 to get a denominator of 30: × 5 16 = 530 × 5 For the second fraction we can multiply top and bottom by 2 to get a denominator of 30: × 2 715 = 1430 × 2 Now we can do the addition by adding the top numbers: 5 30 + 14 30 = 19 30 The fraction is already as simple as it can be, so that is the answer. Least Common Multiple Tool To find the least common denominator automatically use the Least Common Multiple Tool. Just put in the denominators, press the button, and the least common denominator is shown. One More Example List the multiples of 8 and 12 multiples of 8: 8, 16, 24, 32, 40, ... multiples 12: 12, 24, 36, 48, ... The Least Common Multiple is 24 For the first fraction we can multiply top and bottom by 3 to get a denominator of 24: × 3 38 = 924 × 3 For the second fraction we can multiply top and bottom by 2 to get a denominator of 24: × 2 512 = 1024 × 2 Now we can do the addition: 9 24 + 10 24 = 19 24 The fraction is already as simple as it can be, so that is the answer. 928,929, 1395, 1396, 1397, 1398, 3560, 3561, 3562, 3563 Copyright © 2025 Rod Pierce LCM (Least Common Multiple) of numbers is the smallest number that the respective numbers can divide into without leaving a remainder. The process of finding the LCM of fractions is a little different than the process of finding the LCM of integers. There can be two ways to find the LCM of fractions one way is to convert the fractions into decimals and then find the LCM of decimal numbers. The other way is to directly find the LCM fractions without the conversion using the following method: Finding the LCM of FractionsWhile finding the LCM of fractions we are trying to find the smallest value either integer or fraction that can be evenly divided by the given fractions.Note: The LCM of a fraction can either be an integer or a fraction. Steps to find the LCM of fractions:Step 1 : Calculate the LCM of the numerators of the given fraction. Step 2 : Calculate the HCF of the Denominators of the given fraction. Step 3 : Compute the LCM of the fractions by using the formula given below, Formula for LCM of FractionsLCM of fractions = \frac{LCM of Numerators}{HCF of Denominators}Example: Find the LCM of 2/3 and 4/9.Solution:Numerators: 2, 4 → LCM(2, 4) = 4Denominators: 3, 9 → HCF(3, 9) = 3LCM of 2/3 and 4/9 =LCM(2, 4)/HCF(3, 9) = 4/3Also Read:HCF of Decimal NumbersSolved Example on HCF and LCM of FractionsExample 1: Calculate the HCF of the fractions 3/8, 5/16, and 3/16.Solution:Given fractions: 3/8, 5/16, and 3/16Numerators: 3, 5, 3Denominators: 8, 16, 16LCM of Numerators (3, 5, 3) = 15HCF of Denominators (8, 16, 16) = 8LCM of (3/8, 5/16, and 3/16) = LCM(3, 5, 3)/HCF(8, 16, 16) = 15/8Example 2: Calculate the LCM of the fractions 2/7 and 9/11.Solution: Given fractions: 2/7 and 9/11.Numerators: 2, 9Denominators: 7, 11LCM of Numerators (2, 9) = 18LCM of (2/7 and 9/11) = LCM(2, 9)/HCF(7, 11) = 15/8 Download Article Download Article In order to add or subtract fractions with different denominators (the bottom number of the fraction), you must first find a common denominator shared between them. In order to have the simplest fraction at the end, it is best to find not just a common denominator, but the least (or smallest) common denominator. This refers to the lowest multiple shared by each original denominator in the equation, or the smallest whole number that can be divided by each denominator.[1] You may also see the phrase least common multiple. This generally refers to whole numbers, but the methods to find it are the same for both. Determining the least common denominator allows you convert the denominators to the same number so you can then add and subtract them. 1 List the multiples of each denominator. Make a list of several multiples for each denominator in the equation. Each list should consist of the denominator numeral multiplied by 1, 2, 3, 4, and so on.[2] Example: 1/2 + 1/3 + 1/5 Multiples of 2: 2 * 1 = 2; 2 * 2 = 4; 2 * 3 = 6; 2 * 4 = 8; 2 * 5 = 10; 2 * 6 = 12; 2 * 7 = 14; etc. Multiples of 3: 3 * 1 = 3; 3 * 2 = 6; 3 *3 = 9; 3 * 4 = 12; 3 * 5 = 15; 3 * 6 = 18; 3 * 7 = 21; etc. Multiples of 5: 5 * 1 = 5; 5 * 2 = 10; 5 * 3 = 15; 5 * 4 = 20; 5 * 5 = 25; 5 * 6 = 30; 5 * 7 = 35; etc. 2 Identify the lowest common multiple. Scan through each list and mark any multiples that are shared by all of the original denominators. After identifying the common multiples, identify the lowest multiple common to all the denominators.[3] Note that if no common multiple exists at this point, you may need to continue writing out multiples until you eventually come across a shared multiple. This method is easier to use when small numbers are present in the denominator. In this example, the denominators only share one multiple and it is 30: 2 * 15 = 30; 3 * 10 = 30; 5 * 6 = 30 The LCD = 30 Advertisement 3 Rewrite the original equation. In order to change each fraction in the equation so that it remains true to the original equation, you will need to multiply each numerator (the top of the fraction) and denominator by the same factor used to multiply the corresponding denominator when reaching the LCD.[4] Example: (15/15) * (1/2); (10/10) * (1/3); (6/6) * (1/5) New equation: 15/30 + 10/30 + 6/30 4 Solve the rewritten problem. After finding the LCD and changing the fractions accordingly, you should be able to solve the problem without further difficulty. Remember to simplify the fraction at the end.[5] Example: 15/30 + 10/30 + 6/30 = 31/30 = 1 1/30 Advertisement 1 List all of the factors of each denominator. The factors of a number are all of the whole numbers that are evenly divisible into that number.[7] The number 6 has four factors: 6, 3, 2, and 1. (Every number has a factor of 1, because every number can be evenly divided by 1.) For example: 3/8 + 5/12. Factors of 8: 1, 2, 4, and 8 Factors of 12: 1, 2, 3, 4, 6, 12 2 Identify the greatest common factor between both denominators. Once you have listed the factors of each denominator, circle all of the common factors. The largest of the common factors is the greatest common factor (GCF) that will be used to continue solving the problem. In our example, 8 and 12 share the factors 1, 2, and 4. The greatest common factor is 4. 3 Multiply the denominators together. In order to use the greatest common factor to solve the problem, you must first multiply the two denominators together. Continuing our example: 8 * 12 = 96 4 Divide this product by the GCF. After finding the product of the two denominators, divide that product by the GCF you found previously. This number will be your least common denominator (LCD).[8] 5 Divide the LCD by the original denominator. To determine the multiple needed to make the denominators equal, divide the LCD you determined by the original denominator. Multiply the numerator and the denominator of each fraction by this number. The denominators should now both be equal to the LCD.[9] Example: 24 / 8 = 3; 24 / 12 = 2 (3/3) * (3/8) = 9/24; (2/2) * (5/12) = 10/24 9/24 + 10/24 6 Solve the rewritten equation. With the LCD found, you should be able to add and subtract the fractions in the equation without further difficulty. Remember to simplify the fraction at the end, if possible. Example: 9/24 + 10/24 = 19/24 Advertisement 1 Break each denominator into prime numbers. Factor each denominator digit into a series of prime numbers that multiply together to make that number. Prime numbers are numbers that cannot be divided by any other number.[10] Example: 1/4 + 1/5 + 1/12 Prime factorization of 4: 2 * 2 Prime factorization of 5: 5 Prime factorization of 12: 2 * 2 * 3 2 Count the number of times each prime appears in each factorization. Tally up the number of times that each prime number appears in the factorization of each denominator digit.[11] Example: There are two 2's in 4; zero 2's in 5; two 2's in 12 There are zero 3's in 4 and 5; one 3 in 12 There are zero 5's in 4 and 12; one 5 in 5 3 Take the largest count for each prime. Identify the largest number of times you used each prime number for any of the denominators and note that count. Example: The largest count of 2 is two; the largest of 3 is one; the largest of 5 is one 4 Write that prime as many times as you counted in the previous step. Do not write out the number of times each prime number appeared throughout all the original denominators. Only write out the largest count, as determined in the previous step. 5 Multiply all the prime numbers written in this manner. Multiply the prime numbers together as they appeared in the previous step. The product of these numbers equals the LCD for the original equation.[12] Example: 2 * 2 * 3 * 5 = 60 LCD = 60 6 Divide the LCD by the original denominator. To determine the multiple needed to make the denominators equal, divide the LCD you determined by the original denominator. Multiply the numerator and the denominator of each fraction by this number. The denominators should now both be equal to the LCD. Example: 60/4 = 15; 60/5 = 12; 60/12 = 5 15 * (1/4) = 15/60; 12 * (1/5) = 12/60; 5 * (1/12) = 5/60 15/60 + 12/60 + 5/60 7 Solve the rewritten equation. With the LCD found, you should be able to add and subtract the fractions as usual. Remember to simplify the fraction at the end, if possible. Example: 15/60 + 12/60 + 5/60 = 32/60 = 8/15 Advertisement 1 Convert each integer and mixed number into an improper fraction. Convert mixed numbers into improper fractions by multiplying the integer by the denominator and adding the numerator to the product. Convert integers into improper fractions by placing the integer over a denominator of "1." Example: 8 + 2 1/4 + 2/3 8 = 8/1 2 1/4; 2 * 4 + 1 = 8 + 1 = 9; 9/4 Rewritten equation: 8/1 + 9/4 + 2/3 2 Find the least common denominator. Implement any of the methods used for finding the LCD of common fractions, as explained in the previous method sections. Note that for this example, we will be using the "listing multiples" method, in which a list of multiples is created for each denominator and the LCD is identified from these lists.[14] Note that you do not need to create a list of multiples for 1 since any number multiplied by 1 equals itself; in other words, every number is a multiple of 1. Example: 4 * 1 = 4; 4 * 2 = 8; 4 * 3 = 12; 4 * 4 = 16; etc. 3 * 1 = 3; 3 * 2 = 6; 3 * 3 = 9; 3 * 4 = 12; etc. The LCD = 12 3 Rewrite the original equation. Instead of multiplying the denominator alone, you must multiply the entire fraction by the digit required for changing the original denominator into the LCD. Example: (12/12) * (8/1) = 96/12; (3/3) * (9/4) = 27/12; (4/4) * (2/3) = 8/12 96/12 + 27/12 + 8/12 4 Solve the equation. With the LCD determined and the original equation changed to reflect the LCD, you should be able to add and subtract without difficulty. Remember to simplify the fraction at the end, if possible.[15] Example: 96/12 + 27/12 + 8/12 = 131/12 = 10 11/12 Advertisement Add New Question Question How do you find the LCD of two fractions? Mario Banuelos, PhD Associate Professor of Mathematics Mario Banuelos is an Associate Professor of Mathematics at California State University, Fresno. With over eight years of teaching experience, Mario specializes in mathematical biology, optimization, statistical models for genome evolution, and data science. Mario holds a BA in Mathematics from California State University, Fresno, and a Ph.D. in Applied Mathematics from the University of California, Merced. Mario has taught at both the high school and collegiate levels. One way to do this is to write out all of the multiples of both denominators, then see where they match for the first time. You can also factor both the denominators and see if there are any common factors. If they do share common factors, the ones they do not have in common will give you insight into how to get the least common denominator. Question What is the LCD of 1/4 and 3/8? First, you must see what lowest number that both 4 and 8 will go into evenly. Since four can go evenly into 8, and 8 goes into itself evenly, then LCD of these two fractions is 8. Question How do I subtract 4/5 from 8/10? Express both fractions with the same denominator. 4/5 is the equivalent of 8/10. 8/10 - 8/10 equals zero. See more answers Ask a Question Advertisement Pencil Paper Calculator (optional) Co-authored by: Associate Professor of Mathematics This article was co-authored by Mario Banuelos, PhD. Mario Banuelos is an Associate Professor of Mathematics at California State University, Fresno. With over eight years of teaching experience, Mario specializes in mathematical biology, optimization, statistical models for genome evolution, and data science. Mario holds a BA in Mathematics from California State University, Fresno, and a Ph.D. in Applied Mathematics from the University of California, Merced. Mario has taught at both the high school and collegiate levels. This article has been viewed 789,512 times. Co-authors: 18 Updated: March 10, 2025 Views: 789,512 Categories: Fractions Print Send fan mail to authors Thanks to all authors for creating a page that has been read 789,512 times. "I learned how to find the least common denominator. I needed to learn that information for my university homework." Share your story Example 1. Find the LCM of 9 and 12. Solution. Go through the multiples of 12 until you come to a multiple of 9. 12, 24, 36. 36 is the first multiple of 12 that is also a multiple of 9. 36 is their LCM. Example 2. Find the LCM of 2 and 8. 8 itself is their LCM. When the larger number is itself a multiple of the smaller number, then the larger number itself is their LCM. Example 3. Find the LCM of 5 and 20. Solution. 20 is their LCM. Now the product of two numbers will always be a common multiple. The product of 6 and 4, for example, is 24, and 24 is a common multiple -- but it is not their lowest common multiple. Their lowest common multiple is 12. LCM of Fractions 216/85, 4096/561 LCM of Fractions 495/243, 550/867 LCM of Fractions 1155/162, 1365/1525 LCM of Fractions 1000/288, 1440/864 LCM of Fractions 506/256, 1155/625 LCM of Fractions 297/625, 1089/676 LCM of Fractions 275/294, 625/784 LCM of Fractions 1008/576, 4704/1024 LCM of Fractions 204/420, 1190/4480 LCM of Fractions 468/94, 520/2428 LCM of Fractions 625/336, 1000/625 LCM of Fractions 1008/384, 2064/576 LCM of Fractions 54/30, 90/75, 108/180 LCM of Fractions 72/36, 180/45, 252/60 LCM of Fractions 70/108, 98/120, 147/144 LCM of Fractions 105/36, 150/54, 210/126 LCM of Fractions 160/48, 180/72, 240/132 LCM of Fractions 8/96, 12/120, 23/180 LCM of Fractions 6/75, 14/120, 15/200 LCM of Fractions 6/378, 21/485, 28/500 LCM of Fractions 168/24, 180/48, 330/60 LCM of Fractions 8/18, 108/24, 180/60 LCM of Fractions 9/18, 12/42, 252/60 LCM of Fractions 32/12, 36/28, 50/56 LCM of Fractions 20/36, 30/42, 45/98 LCM of Fractions 24/36, 30/90, 36/135 LCM of Fractions 120/14, 180/21, 300/28 LCM of Fractions 36/9, 45/12, 60/21 LCM of Fractions 12/21, 36/35, 160/70 LCM of Fractions 18/50, 30/75, 54/175 LCM of Fractions 24/48, 30/84, 198/132 LCM of Fractions 9/24, 21/72, 63/96 LCM of Fractions 91/36, 117/81, 231/144 LCM of Fractions 8/27, 56/36, 140/90 LCM of Fractions 25/42, 144/63, 400/147 LCM of Fractions 152/56, 190/96, 228/200 LCM of Fractions 6/42, 15/75, 24/84, 32/90 LCM of Fractions 12/40, 20/45, 28/48, 36/90 LCM of Fractions 10/36, 12/60, 20/84, 25/108 LCM of Fractions 60/42, 72/63, 85/66, 96/86 LCM of Fractions 15/32, 20/36, 25/48, 30/64 LCM of Fractions 11/18, 12/36, 19/63, 40/120 LCM of Fractions 23/15, 24/20, 25/24, 120/48 LCM of Fractions 7/9, 12/27, 21/81, 27/90 LCM of Fractions 10/12, 15/24, 18/32, 32/54 LCM of Fractions 7/12, 10/18, 13/75, 17/80 LCM of Fractions 9/27, 28/36, 42/45, 48/56 LCM of Fractions 16/30, 24/60, 32/75, 36/120 The formulas given below can be used to find the highest common factor (HCF) and least common multiple (LCM) of fractions. Example 1 :Find the HCF of : 3/5 and 7/10Solution :Formula to find the highest common factor (HCF) of fractions := HCF of Numerators / LCM of DenominatorsHCF of numerators (3, 7) = 1LCM of denominators (5, 10) = 10Highest common factor (HCF) of 3/5 and 7/10 is = 1/10Example 2 :Find the HCF of : 8/21 and 6/35Solution :Formula to find the highest common factor (HCF) of fractions := HCF of Numerators / LCM of DenominatorsHCF of numerators (8, 6) = 2LCM of denominators (21, 35) = 105Highest common factor (HCF) of 8/21 and 6/35 is = 2/105Example 3 :Find the HCF of :4/5, 3/10 and 7/15Solution :Formula to find the highest common factor (HCF) of fractions := HCF of Numerators / LCM of DenominatorsHCF of numerators (4, 3, 7) = 1LCM of denominators (5, 10, 15) = 30 HCF of (4/5, 3/10, 7/15) is = 1/30Example 4 :Find the HCF of :1/2, 3/4, 5/6, 7/8 and 9/10Solution :Formula to find the highest common factor (HCF) of fractions := HCF of Numerators / LCM of DenominatorsHCF of numerators (1, 3, 5, 7, 9) = 1LCM of denominators (2, 4, 6, 8, 10) = 120 HCF of (1/2, 3/4, 5/6, 7/8, 9/10) is = 1/120Example 5 :Find the LCM of :3/5 and 7/10Solution :Formula to find the least common multiple (LCM) of fractions := LCM of Numerators / HCF of DenominatorsLCM of numerators (3, 7) = 21HCF of denominators (5, 10) = 5Least common multiple (LCM) of 3/5 and 7/10 is = 21/5Example 6 :Find the LCM of :8/21 and 6/35Solution :Formula to find the least common multiple (LCM) of fractions := LCM of Numerators / HCF of DenominatorsLCM of numerators (8, 6) = 24HCF of denominators (21, 35) = 7Least common multiple (LCM) of 8/21 and 6/35 is = 24/7Example 7 :Find the LCM of :2/5, 3/10 and 4/15Solution :Formula to find the least common multiple (LCM) of fractions := LCM of Numerators / HCF of DenominatorsLCM of numerators (2, 3, 4) = 12HCF of denominators (5, 10, 15) = 5LCM of (2/5, 3/10, 4/15) is = 12/5Example 8 :Find the LCM of :1/3, 5/6, 5/9 and 10/27Solution :Formula to find the least common multiple (LCM) of fractions := LCM of Numerators / HCF of DenominatorsLCM of numerators (1, 5, 5, 10) = 10HCF of denominators (3, 6, 9, 27) = 3LCM of (1/3, 5/6, 5/9, 10/27) is = 10/3 Kindly mail your feedback to v4formath@gmail.comWe always appreciate your feedback. ©All rights reserved. onlinemath4all.com LCM of Fractions 216/85, 4096/561LCM of Fractions 495/243, 550/867LCM of Fractions 1155/162, 1365/1525LCM of Fractions 1000/288, 1440/864LCM of Fractions 506/256, 1155/625LCM of Fractions 297/625, 1089/676LCM of Fractions 275/294, 625/784LCM of Fractions 1008/576, 4704/1024LCM of Fractions 204/420, 1190/4480LCM of Fractions 468/94, 520/2428LCM of Fractions 625/336, 1000/625LCM of Fractions 1008/384, 2064/576LCM of Fractions 54/30, 90/75, 108/180LCM of Fractions 72/36, 180/45, 252/60LCM of Fractions 70/108, 98/120, 147/144LCM of Fractions 105/36, 150/54, 210/126LCM of Fractions 160/48, 180/72, 240/132LCM of Fractions 8/96, 12/120, 23/180LCM of Fractions 6/75, 14/120, 15/200LCM of Fractions 6/378, 21/485, 28/500LCM of Fractions 168/24, 180/48, 330/60LCM of Fractions 8/18, 108/24, 180/60LCM of Fractions 9/18, 12/42, 252/60LCM of Fractions 32/12, 36/28, 50/56LCM of Fractions 20/36, 30/42, 45/98LCM of Fractions 24/36, 30/90, 36/135LCM of Fractions 120/14, 180/21, 300/28LCM of Fractions 36/9, 45/12, 60/21LCM of Fractions 12/21, 36/35, 160/70LCM of Fractions 18/50, 30/75, 54/175LCM of Fractions 24/48, 30/84, 198/132LCM of Fractions 9/24, 21/72, 63/96LCM of Fractions 91/36, 117/81, 231/144LCM of Fractions 8/27, 56/36, 140/90LCM of Fractions 25/42, 144/63, 400/147LCM of Fractions 152/56, 190/96, 228/200LCM of Fractions 6/42, 15/75, 24/84, 32/90LCM of Fractions 12/40, 20/45, 28/48, 36/90LCM of Fractions 10/36, 12/60, 20/84, 25/108LCM of Fractions 60/42, 72/63, 85/66, 96/86LCM of Fractions 15/32, 20/36, 25/48, 30/64LCM of Fractions 11/18, 12/36, 19/63, 40/120LCM of Fractions 23/15, 24/20, 25/24, 120/48LCM of Fractions 7/9, 12/27, 21/81, 27/90LCM of Fractions 10/12, 15/24, 18/32, 32/54LCM of Fractions 7/12, 10/18, 13/75, 17/80LCM of Fractions 9/27, 28/36, 42/45, 48/56LCM of Fractions 16/30, 24/60, 32/75, 36/120 Here you will learn concept of LCM and how to find least common multiple (LCM) of numbers and fractions with examples. Let's begin – Concept of LCM Let \(n_1\) and \(n_2\) be two natural numbers distinct from each other. The smallest natural number n that is exactly divisible by \(n_1\) and \(n_2\) is called Least Common Multiple (LCM) of \(n_1\) and \(n_2\) and is designated as LCM(\(n_1\), \(n_2\)). How to Find Least Common Multiple (LCM) (a) Find the standard form of the numbers. (b) Write out all the prime factors, which are contained in the standard forms of either of the numbers. (c) Raise each of the prime factors listed above to the highest of the powers in which it appears in the standard forms of the numbers. (d) The product of results of the previous step will be the LCM of numbers. Note : GCD(\(n_1\), \(n_2\)).LCM(\(n_1\), \(n_2\)) = \(n_1\).\(n_2\) i.e. The product of the HCF and LCM equal to the product of the numbers. Rule for Finding LCM of Fractions LCM of two or more fractions is given by : \(LCM of Numerators\over HCF of Denominators\) Example : Find the LCM of 150, 210, 375. Solution : We have the numbers, 150, 210, 375. 1). Writing down the standard form of numbers. 150 = \(5 \times 5 \times 3 \times 2\) 210 = \(5 \times 2 \times 7 \times 3\) 375 = \(5 \times 5 \times 5 \times 3\) 2). Write down all the prime factors that appears at least once in any of the numbers : 5, 3, 2, 7 3). Raise each of the prime factors to their highest available power (considering each to the numbers). Hence, the LCM will be \(2^2\times 3^2 \times 5^3 \times 7^1\) = 5250 Example : Find the LCM of 50, 75. Solution : We have the numbers, 50, 75 1). Writing down the standard form of numbers. 50 = \(5 \times 5 \times 2 \) 75 = \(5 \times 5 \times 3\) 2). Write down all the prime factors that appears at least once in any of the numbers : 5, 3, 2 3). Raise each of the prime factors to their highest available power (considering each to the numbers). Hence, the LCM will be \(5^2\times 3^1 \times 2^1\) = 150 Previous – What are Rational and Irrational Numbers with Examples ? The common denominator is the least common multiple of the denominators of multiple fractions. Each fraction can be rewritten as an equivalent fraction using the common denominator. For example, @$\begin{align*}\frac23\end{align*}@$ and @$\begin{align*}\frac12.\end{align*}@$ The denominators of the fractions are 3 and 2. The LCM of 3 and 2 is 6. Multiply the numerator and denominator by the same value to get equivalent fractions: @$$\begin{align*}\frac{2\times2}{3\times2}=\frac46\\ \vphantom{0000}\\ \frac{1\times3}{2\times3}=\frac36\\\end{align*}@$$ Now the fractions have a common denominator.