Recurring decimals to fractions worksheet answers

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Level 6-7 Repeating decimal number with a repetitive number or a section of repetitive numbers after the decimal point. We show this with a point above both the beginning and the end of the re-section. start dfrac{1}{3} 0. dot{3} 0.33333... «dfrac{6}{11} 0.» dot{5} dot{4} 0.54545454... Note: Factions in which the denominator has the main factors only 2 or 5, stop (not repeated). To convert the decimal into a repetitive decimal, we can find an equivalent faction that contains only 9 on the denominator. The numerator then gives us the repetitive (repetitive) part of the decimal point in which we place a point above the first number and the last number. Example: Write dfrac{2}{11} as a repetitive decimal. Multiply the top and bottom of the faction by 9 to make the denominator to have 9 in it: dfrac{2}{11} and dfrac{18}{99} then the numerator, 18 gives us repetitive parts, so we put a point above 1 and a point above 8. So dfrac{2}{11} 0.' dot1 (dot 8) Another way to convert a faction to a repetitive decimal, is to treat the faction as a division and use some dividing method to divide the numerator into a denominator. Here we will use the bus stop method. Example: Write dfrac{5}{37} as decimal. We set up the bus stop method as follows, with a few zeros after the decimal place. Then finish the bus stop method as follows. As the decimal is repeated, it is a repetitive decimal, which can be written as 0.' dot1 3 'dot5. So dfrac{5}{37} 0.' dot1 3' dot5 Conversion of repetitive decimal fraction can be a standalone exam question, so this is definitely a skill you want to master. Example: Write 0.' dot1 4 'dot7 as a faction in his simplest from. Step 1: Make your number equal x. x' 0.' dot1 4' dot7 Step 2: Multiply both sides in textcolorblue {10} for each decimal place that doesn't repeat (If they're not, it stays as step 1). x 0.' dot1 4'dot7 Step 3: Multiply both sides by textcolorblue{10} for each recurring number. 1000x 147.' dot1 4' dot7 Step 4: Subtract the equations in steps 2 and 3, so that the numbers after the decimal point cancel, then decide for x. start 1000x - x 147. dot1 4 dot7 - 0. dot1 4 dot7 999x 147 x dfrac{147}{999} end step 5: Simplify the faction if necessary. x dfrac{49}{333} write dfrac{7}{33} as decimal. (2 tags) The first thing we need to do is set up a bus stop method. So the setting should look. Then look to complete the bus stop method. As the decimal is repeated, it is a repetitive decimal that can be written as 0.' dot{2}'dot{1}. So, dfrac{7}{33} 0. dot2 dot1 Write 0. dot{1}dot{4} as a faction. (2 marks) So set x 0.{1} point{4}, then, we want to convert into a faction. Then, 100x and 14.' dot{1}'dot{4}. Now that we have two rooms, x and 100x, with the same numbers after the decimal point, if you subtract one from the other, the numbers after the decimal point will be canceled. start 100x -x 14.' dot{1}'dot{4} - 0.' dot{1}'dot{4} 99x 14endaligned Then if we split both sides of this into 99, we'll get x th dffra{14}{99} Write 0.8 point{3} as a faction. (2 marks) So let the x 0.8 point{3}. This time, we take 10x and 8.' dot{3} and 100x 83.' dot{3}, then we have two multiples of x that have the same numbers after the decimal point. Thus, subtracting one from the other, we get the beginning of 100x - 10x 90x{3} 83{3}. we get that x th dfrak{75}{90} and drf{5}{6} Considering this faction as a division, we will use the bus stop method to find the result of the division 1 by 9. The result of the division should look like this: ; ; ;;0.; 1»;1»1»1»;; 9overline 1.010101010101010101010.{1}{9} dot{1} If we let x'0.' dot{3} and 10x-3.'dot{3} That x and 10x are identical after a decimal place. Therefore, if you subtract one from the other, everything after the decimal point will be canceled. 10x - x 9x - 3.' dot{3} - 0.' dot{3} 3 So if we rearrange to make x subject then, x'dfrac{3}{9}'dfrac{1}{3} If we let x 0.9{3} point{0} and 1000x 390.' dot{3}9'dot{0} then x and 1000x are identical after decimal place. Therefore, if you subtract one from the other, everything after the decimal point will be canceled. 1000x - x 999x 390{3}9{3} point{0} - 0.' dot{3}9'dot{0} 390 So if we rearrange to make x subject then, x 0.9{3} point{0} - dfrac{130}{333} Considering this faction as a division, we'll use a short division to find the result of division 10 on 11. The result of the short division should look like this: 9';;0';; 9';;0';; 9';;0';;; 9';;;0' 11'overline}1 0.0 x 10 {10}0 10 x 10 {10}0 x 10 {10}0 10 x 10 x 10. So if we let x 1{9}{10}{11}5 point{0}{4} then 10x and 15.' dot{4} and 100x{4} and 100x and 154.' dot{4} The 10x and 100x are identical after the decimal place. Therefore, we can subtract from the one to the other so that everything after the decimal point is canceled. 100x - 10x - 90x 154.' dot{4} - 15{139}{90}{4}. Give your answers as the wrong factions where necessary. Need help? Read these revision notes on Transforming Repetitive Decimals in Faction. In this sheet, we will practice converting a repetitive decimal to a fraction or a mixed number. Issue 2: Conversion of .547 into faction. A271495 B547990 C5471,000 D271500 E271505 No5: Which of the following faithful? A4.33>4.33 B4.33<4.33 C4.33-4.33 No6: 0.37 to a fraction. A37101 B37100 C373101 D3799 E37399 No7: Answer the following questions for recurring decimal 0.24; i.e. 0.24242424.... Let x 0.24. Find expression for 100x. A100x-242.42 B100x-0.24 C100x-24.24 D100x-2.42 E100x-20.24 Subtraction x from 100x, to find expression for 99x. A99x-20 B99x-42 C99x-2 D99x-242 E99x-24 Find x. Ax-2099 Bx-229 Cx-1433 Dx-299 Ex-833 No9: Conversion 0.7 into fraction. Question 11: Simplify 0.76 euros by giving your answer in the form of ab. A-7625 B-1925 C-19100 D-7610 E-76100 Problem 1 : Hidden given a repetitive decimal in fraction32.03256256256....... Problem 2 : Hidden given a repetitive decimal in fraction0.0123222......... Problem 3 : Hidden given a repetitive decimal in fraction2.03323232 .... Problem 4 : Hidden given a repetitive decimal in fraction0.252525 .... Problem 5 : Hidden given a repetitive decimal in fraction3.3333 .... Problem 6 : Hidden given a repetitive decimal in fraction1.023562562562.......... Detailed answer Key Problem 1 : Hidden given a repetitive decimal in fraction32.03256256256......... Solution : Let x 32.03256256256................Here, the pattern 256No. digits between the 1st pattern and the decimal No. 2Then, multiply this decimal by 100,100x 3203.256256........................... numbers between the 2nd repeated pattern and decimal No. 5Then, multiply this decimal by 100,000.10000x 3203256.256256............ ----- (2) Subtraction (1) from (2), we receive (2), we receive (................----- (2) subtraction (1) from (2), we get (2) - (1) -------- 99900x 3200053x 3200053/99900So,32.03256256256.................3200053/99900Problem 2 : Hidden given this repetitive decimal in fraction0.0123222......... Solution : Let x 0.0123222................Here repeats the pattern 2No. digits between the 1st pattern and decimal No. 4 (Here, the first repeats pattern begins after four decimal digits)Then, multiply this decimal by 10,000. 10000X and 123.2222...............----- (1) No. numbers between the 2nd repeats pattern and decimal No. 5Then, multiply this decimal by 100000.100000x 1232.2222.............................----- (2) subtraction (2), we receive (2) - (1) -----'gt; 90000x 1109x 1109/90000So,0.0123222......... 1109/9000Bablem 3 : Hidden given a repetitive decimal in fraction2.03323232 .... Solution : Let x 2.03323232................Here repeats the pattern 32No. digits between the 2nd repeats pattern begins after two decimal digits)Then, multiply this decimal point by 100. 100x 203.323232...........- (1) No. digits between the 2nd repeats pattern and decimal No. 4Then, multiply this decimal point by 10,000. 10000x (1) from (2), we get (2) - (1) -----'gt; 9900x 20129x 9900/20129So,2.033232.......... 9900/20129Problema 4 : Hidden by this repetitive decimal in fraction0.252525.......... Solution : Let x 0.252525............Here repeats the pattern 25No. digits between the 1st pattern and decimal No. 0 Then, multiply this decimal by 1. x .252525...............----- (2) subtraction (1) from (2), we get (2) - (1) ------- 'gt; 99x 25x 25/99So,0.252525.......... 25/99Problema 5 : Hidden by this repetitive decimal in fraction3.3333........... Solution : Let x 3.333................Here repeats the pattern 3No. digits between the 1st pattern and decimal No. 0 (Here, the first repeats pattern 3, which comes just after the decimal point) then, multiply this decimal by 1. x 3.3333...............----(1) No. the numbers between the 2nd pattern and the decimal No. 1 (Here, the second repeats pattern 3, which comes one digit after the decimal point)Then, multiply this decimal by 10. 10x 33.3333.................----- (2) Subtraction (1) from (2), we get (2) - (1) ----- 30x 30x 30/9 y 10/3So,3333............. 10/3 Problem 6 : Hidden given a repetitive decimal in fraction1.023562562562.......... Solution : Let x 1.023562562562.............Here, repeats the pattern 562No. digits between the 1st pattern and decimal No. 3 Then, multiply this decimal by 1000.1000x No 1023.562562...................------... digits between the 2nd repeated pattern and decimal No. 6Then, multiply given the decimal point by 1,000,000. 1000000x 1023562.5625662.............------ (2) subtraction (1) from (2), we get (2) - (1)) ----- 999000x 1022538x 1022539/999000 So,0235625662.......... 1022539/999000 Apart from the data above, if you need any other stuff in math, please use our custom Google search here. If you have any feedback on our math content, please give us: v4formath@gmail.com We always appreciate your feedback. You can also visit the following web pages on various things in math. WORD PROBLEMSHCF and LCM word problemsWord problems on simple equations Word problems on linear equations Word problems on quadratic equationsAlgebra word problemsWord problems on trainsArea and problems with the word perimeter Word problems on direct change and reverse variations of Word problems at reference pricesWord problems at the rate of a unit Word problems compared to ratesConverting ordinary unit problems Conversion of the word and additional angles of the word problemsDouble facts of the word problemsTrigonometry word problemsPercentage problems of the word problemsMarkup and marking up the problem of the word Decimal Word problems on mixed fractionsOne step equation of the word problemlinear inequality of the word problemRath and the proportions of word problemsTime and problems with WordWord's work on sets and diagrams vennWord problems on age-agePythagorean theorem word problemsConseguing the number of words ProblemsWord problems at constant speedWord problems at the average speed word problems on the sum of angles triangle 180 degreesOTHER TOPICS Profit and Loss of ShortcutsTime Labelage ShortcutsTime, Speed and distance shortcutsDomain and proportions of shortcutsDomain and a range of rational functionsHomen and a range of rational functions With holesGraphing rational functionsGraphing rational functions With holesConverting repetitive decicant marks in the fractionde representation of rational numbersIn intended square root using a long divisionL.C.M method to solve problems of time and workTransition of the word when 2 power 256 is divided into 17Remainder When 17 power 23 is divided by 16Sum of all three-digit numbers is divided into 6Sum of all three-digit numbers, divided into 7Sum of all three-digit numbers, divided into 8Sum of all three-digit numbers formed using 1, 3, 4Sum all three four-digit numbers formed with non-zero digitsSum of all three four-digit numbers formed using 0, 1, 2, 3Sum of all three digits formed using 1, 2, 5 6 author's onlinemath4all.com SBI! 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