Ratios, Rates and Proportions Study Guide

Objective	Resources	Mastered It(check mark)	Need More Practice (check mark)
Express a 2 term Ratio in the form of 2/5 2:5 and 2 to 5	page 51 #5,6,7, 10, 11, 12, 13, 17, Mr. M's Video (Representing 2 and 3 Term Ratios)		
Express a 3 term ratio in the form of 3:4:7 and 3 to 4 to 7	Mr. Melhem's Video (Representing 2 and 3 Term Ratios) Complete Quiz		
Reduce a ratio to lowest terms, create equivalent ratios and calculate missing terms between two equivalent ratios.	page 52 #9 page 67 #8,9, 19 page 71 # 15 Mr. M's Video (Equivalent Ratios) Complete Quiz		
Express a part to part ratio as a part to whole fraction. For example frozen juice to water...1 can concentrate to 4 cans water can be expressed as 1 can concentrate:5 cans solution or 4:5 which is the ratio of water to solution.	page 51 # 1-4 in the blue box. Mr. Melhem's Video called Parts to Whole Ratio. Take Notes on the word problems Complete the quiz.		
Identify and describe ratios and rates (including unit rates) from real-life examples, and record them symbolically.	page 60 # 4, 5, 6, 7, 8, 9, 10, 11, 12 page 67 # 4,5,6 page 70 # 1-5 (Matching) Mr. M's Video (Rates) Complete Quiz		
Express a given rate, using words or symbols; e.g., 20 L per 100 km or 20 L/100 km	Being able to properly read the rates on all of the questions on page 60, 61, 62		
Express a given ratio as a percent, and explain why a rate cannot be represented as a percent	page 53, #19, #21, 22 Mr. M's Video (Ratios to Percents)		
Explain the meaning of a/b within a given question or problem.	Any question you do in this entire unit is based upon this concept. Make sure you can explain to Mr. Melhem the meaning of all the numbers when presented in the format of a/b or a:b or a to b. Be prepared for explaining the difference between the meaning of the numbers when a/b is a part to part ratio, part to whole ratio, rate or fraction.		
Provide a context where a/b represents a: -fraction -ratio -rate -quotient	Once you understand the difference between all of these terms, create some examples and show Mr. M to recieve credit for this concept.		
Solve word problems that involve ratios, rates and percentages by setting up proportions.	page 52, #14, 15, 16, 18, 20 page 61 #13-19 page 67 #10-28 Mr. M's Videos (Proportions in Hockey, Proportions in Nature, Proportions in the Supermarket, Proportions With Exchange Rates, Proportions with Nutrition) Complete Each Online Quiz		

Projects

Complete any 2 of the following projects

- Create a sports card of your favorite player and use the statistics that you recorded to calculate future projections on the number of goals, assists and points that they will score after a certain number of games. Base it on real and accurate statistics.

- Cook your favorite food at home using original ingredients. Bring your food to class and share with your classmates, but only after you have created a nutrition label indicating the amount of fat, protein, carbs and calories that are in 1 serving of your meal. Show your work clearly in an organized manner on a separate sheet of paper.

- Go to your local grocery store and have somebody record you calculating the better deal between 2 competing products. The video recording must show a close up of your work and you must speak clearly enough for me to understand you. Save the video onto a USB and submit it to me when complete.

- Bring ingredients into class or do it at home. Make Kool-Aid or any other powder drink (You may also use frozen juice concentrate). Record yourself on video or show Mr. Melhem in person, if he has time, how you would calculate the percentage of powder in your drink using parts to whole ratios and percentages. Then create a more concentrated version of the same drink and calculate the new percentage of powder.

- You are also more than welcome to create your own project. Please have the project be approved by me first.

Grading For This Unit

Mr. M's Online Quizzes (All work must be shown on a separate sheet of paper) (20%)

2 In Class Quizzes (30% combined)

    Quiz 1: Representing Ratios, Parts To Whole, Rates, Ratios to Percentages (15%)

    Quiz 2: Word Problems (15%)

2 Projects (20% combined)

Unit Test (30%)

January 2015 Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 New Years	2	3
4	5	6 **Flag Percents Video Due**	7	8	9	10
11	12	13 **Quiz 1**	14	15	16	17
18	19 **Quiz2**	20	21	22 **Unit Test**	23 **Unit Test**	24
25	26 **Start Integers**	27	28	29 **Multiplying/ Dividing Integer Quiz**	30	31

Please Note: Ratio Projects need to be submitted any day before the Unit Exam.

Math - Problem Solving : Math Project Name Goes Here:_____

_____

Teacher Name: **Mr. Melhem**

Student Name: _____

CATEGORY	4	3	2	1
Mathematical Concepts	Explanation shows complete understanding of the mathematical concepts used to solve the problem(s).	Explanation shows substantial understanding of the mathematical concepts used to solve the problem(s).	Explanation shows some understanding of the mathematical concepts needed to solve the problem(s).	Explanation shows very limited understanding of the underlying concepts needed to solve the problem(s) OR is not written.
Mathematical Reasoning	Uses complex and refined mathematical reasoning.	Uses effective mathematical reasoning	Some evidence of mathematical reasoning.	Little evidence of mathematical reasoning.
Mathematical Errors	90-100% of the steps and solutions have no mathematical errors.	Almost all (85-89%) of the steps and solutions have no mathematical errors.	Most (75-84%) of the steps and solutions have no mathematical errors.	More than 75% of the steps and solutions have mathematical errors.
Explanation	Explanation is detailed and clear.	Explanation is clear.	Explanation is a little difficult to understand, but includes critical components.	Explanation is difficult to understand and is missing several components OR was not included.
Mathematical Terminology and Notation	Correct terminology and notation are always used, making it easy to understand what was done.	Correct terminology and notation are usually used, making it fairly easy to understand what was done.	Correct terminology and notation are used, but it is sometimes not easy to understand what was done.	There is little use, or a lot of inappropriate use, of terminology and notation.

Math - Problem Solving : Math Project Name Goes Here:_____

_____

Teacher Name: **Mr. Melhem**

Student Name: _____

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