

Algebra 1-2: Conditional Relative Frequencies Worksheet

Name: _____

Period: _____ Date: _____

Students were given the opportunity to prepare for a college placement test in mathematics by taking a review course. Not all students took advantage of this opportunity. The following results were obtained from a random sample of students who took the placement test:

	Placed in Math 200	Placed in Math 100	Placed in Math 50	Total
Took Review Course	40	13	7	60
Did not take Review Course	10	15	15	40
Total	50	28	22	100

1. Construct a row conditional relative frequency table of the above data.

	Placed in Math 200	Placed in Math 100	Placed in Math 50	Total
Took review course				
Did not take review course				
Total				

2. Based on the conditional relative frequencies, is there evidence of an association between whether or not a student takes the review course and the math course in which the student was placed? Explain your answer.

3. Looking at the conditional relative frequencies, the proportion of students who placed into Math 200 is much higher for those who took the review course than for those who did not. One possible explanation is that taking the review course caused improvement in placement test scores. What is another possible explanation?

Now consider the following statistical study:

Fifty students were selected at random from students at a large middle school. Each of these students was classified according to sugar consumption (high or low) and exercise level (high or low). The resulting data are summarized in the following frequency table.

		Exercise Level		Total
		High	Low	
Sugar Consumption	High	14	18	32
	Low	14	4	18
Total		28	22	50

4. Calculate the row conditional relative frequencies, and display them in a row conditional relative frequency table.

		Exercise Level		Total
		High	Low	
Sugar Consumption	High			
	Low			
Total				

5. Is there evidence of an association between sugar consumption category and exercise level? Support your answer using conditional relative frequencies.
6. Do you think it is reasonable to conclude that high sugar consumption is the cause of the observed differences in the conditional relative frequencies? What other explanations could explain a difference in the conditional relative frequencies? Explain your answer.