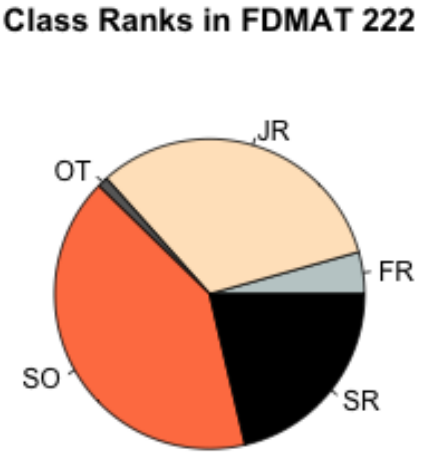
Lesson 16: Describing Categorical Data (Proportions)

Preparation

Solutions

Please note that the steps show rounded numbers, but that the final answers to the problems are calculated without rounding.

Problem	Part	Solution
1	-	b. Pie Charts d. Bar Charts
2	-	$\hat{p} = \frac{x}{n}$ n = total sample size x = number of individuals in sample with the characteristic you are focusing on.
3	-	P or the population proportion
4	-	Standard Deviation of $\hat{p} = \sqrt{\frac{p(1-p)}{n}}$ n = total sample size p = the true population proportion, which is also the mean of the distribution of $\hat{p}$
5	-	Answers may vary: Categorical data groups the individuals in your study into categories, while numerical data assigns numbers to the individuals in your study. These numbers are a subset of the real numbers and can be discrete or continuous.



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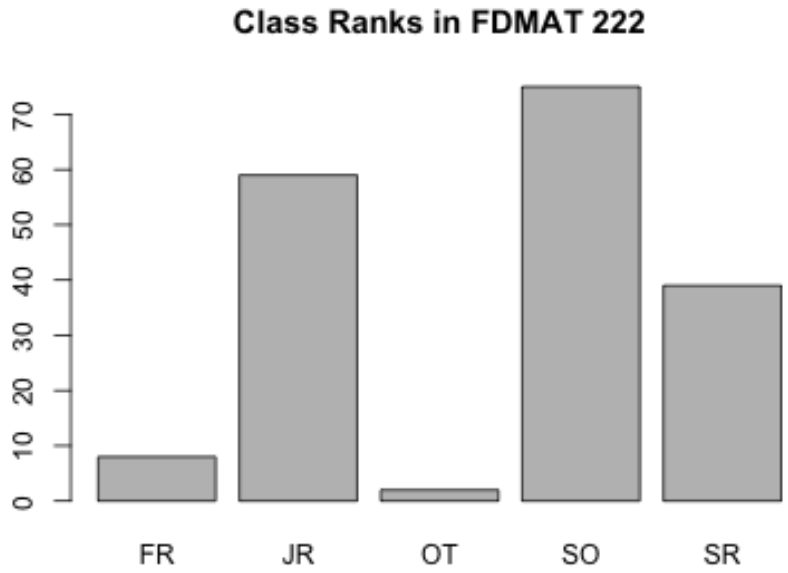
Problem	Part	Solution
		
7	-	
8	-	Your answers could vary. You could've used proportions to describe the data, described the data in words, or displayed a frequency table. **Freshman**: Count=8, $\hat{p}$=0.0437 **Sophmore**: Count=75, $\hat{p}$=0.4098 **Junior**: Count=59, $\hat{p}$=0.3224 **Senior**: Count=39, $\hat{p}$=0.2131 **Other**: Count=2, $\hat{p}$=0.0109
9	A	The mean is 7% or 0.07 in this sample and the standard deviation is 0.0093
9	B	z= 1.073
9	C	Area = 0.1416