

Chapter 3 Activity

A math instructor wrote two versions of the same test and believed them to be of equal difficulty. The first version was given to a random sample of 36 students, and the second version was given to a random sample of 41 students. Your job is to help the instructor decide if the two tests were of equal difficulty, or if one of the exams was harder than the other. Here are the scores of the two versions.

Version A

91	79	82	86	88	88	82	88
88	64	98	90	75	60	93	80
86	82	63	77	82	69	79	73
57	92	82	85	94	77	74	90
53	68	62	77				

Version B

69	84	79	94	85	96	94	79
71	94	70	86	82	91	64	86
87	87	92	69	74	95	77	95
94	80	69	98	96	87	76	91
82	89	76	95	95	72	82	82
85							

- Compute the following statistics for each test: mean, median, standard deviation.

<i>Statistic</i>	<i>Test A</i>	<i>Test B</i>
<i>Mean</i>		
<i>Minimum</i>		
<i>Q1</i>		
<i>Median</i>		
<i>Q3</i>		
<i>Maximum</i>		
<i>Range</i>		
<i>Standard Deviation</i>		
<i>Variance</i>		
<i>IQR</i>		

- Create a histogram for each set of test scores.

Score	Test A Frequency	Test B Frequency
40 to 50		
50 to 60		
60 to 70		
70 to 80		
80 to 90		
90 to 100		

- Create a pie chart showing the letter grade breakdown for each test. (You will need to manually count how many A's, B's, ... and do a pie chart with summary.)

Grade	Test A Count	Test B Count	Test A Pie	Test B Pie
A				
B				
C				
D				
F				

- Draw a box plot for each set of scores on the same graph.

Were the two exams of equal difficulty? Which one piece of evidence led you to your decision? Explain.