

An instructor wants to use two standardized exams in her classes next year. This year, she randomly selects sixteen students from her sections of a large lecture course and asks them to “test pilot” the two exams. She wants to know if the exams are equally difficult and decides to check this by looking at the differences between students’ scores. If the mean difference between scores for students is “close enough” to zero, she will make a practical conclusion that the exams are equally difficult.

Student	Exam 1 Score	Exam 2 Score	Difference
Bob	63	69	6
Nina	65	65	0
Tim	56	62	6
Kate	100	91	−9
Alonzo	88	78	−10
Jose	83	87	4
Nikhil	77	79	2
Julia	92	88	−4
Tohru	90	85	−5
Michael	84	92	8
Jean	68	69	1
Indra	74	81	7
Susan	87	84	−3
Allen	64	75	11
Paul	71	84	13
Edwina	88	82	−6

Use JMP to answer the following questions.

1. Find a 99% confidence interval for the mean difference in exam scores.
2. Test whether there is a significant difference between the exam scores at the 0.01 level.