(6 minutes : 6 points)

3. **An experiment was done to examine the relationship between measurements of "X" and measurements of "Y". Use the data reported in the box to test the proposition that X and Y are positively correlated.**

(Use $\alpha = 0.025$ for the test.)

Data from the Experiment	
X	Y
435	388
302	394
332	306
457	450
442	436

(6 minutes : 7 points)

4. **You make wood products with glue to fasten joints together. The manufacturer of a new glue formula claims that wood joints using the new glue can hold on average 10 pounds more than joints that use the old formula. You make 8 joints using the new glue and 15 joints using the old glue, then you measure how much weight each joint can hold. Use the results below to make a 95% confidence interval for ($\mu_{NEW} - \mu_{OLD}$), and then answer the question below. Experts advise you that the strength of joints made with the old glue appears to be more variable than with the new glue.**

	Weight Held	
	New Glue	Old Glue
$\bar{x}$ =	215.0	198.4
s =	4.4	9.3
n =	8	15