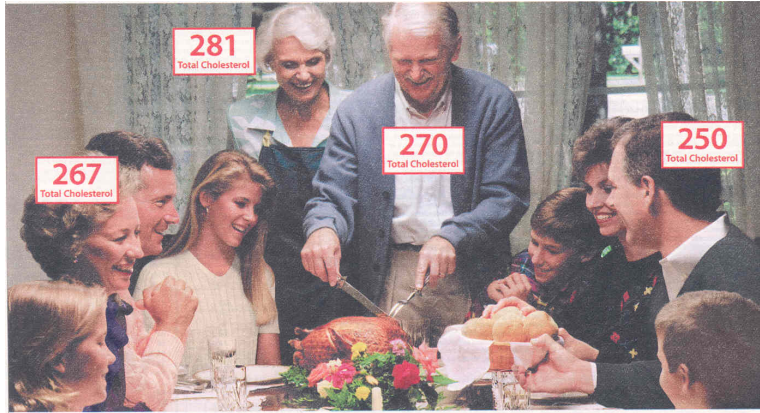# Lipitor

An ad for Lipitor, a Pfizer drug, claims:

"It can help lower your total cholesterol 29% to 45%. Of all cholesterol medicines, doctors prescribe LIPITOR the most. Ask your doctor if its right for you."

USA Weekend, Dec 14, 2003.

Suppose that we had the measurements of the cholesterol level before starting and after a period of time of taking Lipitor for a sample of people that were used in this study. Here are the cholesterol measurements:

Person	Before	After	Differences	% change
1	267	180		
2	281	160		
3	270	160		
4	250	170		
5	237	130		

1. Calculate the differences between the before and after measurements.

2. What null hypothesis would you think is appropriate here. Write it out in English and statistical notation if you can.

3. Compute the appropriate t-statistic to test your null hypothesis. (Assume that $s_d = 17$.)

4. What is the appropriate alternative hypothesis?

5. Compute the P-value for the test statistic.

6. State your conclusion.