Name:	Math 130 Day 20 Lecture Worksheet
Date:	Sections 11.2 and 11.3: Hypothesis Tests for 2 Population Means

Ex 1 (Sec. 11.3 Book Example 1 pg. 556 independent samples): In the Spacelab Life Sciences 2 payload, 14 male rats were sent to space. Upon their return, the red blood cell mass (in milliliters) of the rats was determined. A control group of 14 male rats was held under the same conditions (except for space flight) as the space rats, and their red blood cell mass was also determined when the space rats returned. The project, led by Dr. Paul X. Callahan, resulted in the data below. Does the evidence suggest that the flight animals have a different red blood cell mass from the control animals at the $\alpha = 0.05$ level of significance?

Flight Rat Red Blood Cell Mass (mL)			Control Rat Red Blood Cell Mass (mL)				
8.59	8.64	7.43	7.21	8.65	6.99	8.40	9.66
6.87	7.89	9.79	6.85	7.62	7.44	8.55	8.70
7.00	8.80	9.30	8.03	7.33	8.58	9.88	9.94
6.39	7.54			7.14	9.14		
		n1=				n2 =	
		xbar1 =				xbar2 =	
		s1 =				s2 =	

a) Use the P-value method

b) Use the rejection region method

Ex 2 (Sec. 11.2 Book Ex.1, pg. 545 dependent samples): Professor Andy Neill measured the time (in seconds) required to catch a falling meter stick for 12 randomly selected students' dominant hand and nondominant hand. Professor Neill wants to know if the reaction time in an individual's dominant hand is less than the reaction time in his or her nondominant hand. A coin flip is used to determine whether reaction time is measured using the dominant or nondominant hand first. Conduct the test at the $\alpha = 0.05$ level of significance. The data is below.

Student	Dominant hand, Xi	Nondominant hand, Yi		
1	0.177	0.179		
2	0.210	0.202		
3	0.186 0.208			
4	0.189	0.184		
5	0.198	0.215		
6	0.194	0.193		
7	0.160	0.194		
8	0.163	0.160		
9	0.166	0.209		
10	0.152	0.164		
11	0.190	0.210		
12	0.172	0.197		
Source: Professor Andy Neill, Joliet Junior College				

a) Use the P-value method

b) Use the rejection region method