

Answer sheet for In-Class Statistics Exercise

Name _____

1.a. _____

b. _____

c. Observed values:

	Approach	Do not approach	Total
Males			
Females			
Total			

Expected values:

	Approach	Do not approach	Total
Males			
Females			
Total			

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

$$df = (\# \text{ rows} - 1) (\# \text{ columns} - 1)$$

Test statistic = _____

Significant or not? _____

d. _____

2.a.

	Mean	Variance	Standard deviation
Same species			
Different species, similar pattern			
Different species, different pattern			

b. _____

c. _____

d.

Same species	Rank	Different species, similar pattern	Rank	Different species, different pattern	Rank

$$H = \frac{12}{N(N+1)} \sum \frac{R_i^2}{n_i} - 3(N+1)$$

Test statistic = _____ (approximately)

Reject or not reject? _____

Why _____

e. Biological explanation:

3. a. type of data: _____

which test? _____

b.

Bee #	Watch only	Watch and get food	Sign of difference
1	87	80	
2	53	48	
3	57	57	
4	89	88	
5	48	38	
6	109	160	
7	109	100	
8	48	78	
9	29	26	
10	45	41	
11	67	53	
12	120	98	
13	55	55	
14	89	78	

Least frequent sign: _____

Test statistic = _____

You may reject /accept the null hypothesis? _____

c. Another possible reason for your findings: i.e. a confounding variable
