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Readings

Week 4: Hypothesis Testing (Categorical Data) > Problem Set > Question 2



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Question 2

When crossing white and yellow summer squash, a genetic model predicts that 75% of resulting offspring will be white, 15% will be yellow and 10% will be green.

Below are the results from an experiment run on a random sample of 205 squash offspring.

Color	White	Yellow	Green
Number of Offspring	152	39	14

(1/1 point)

2a. Which method should we use to test if these data are consistent with the ratio of offspring colors predicted by the genetic model?

☒ Chi Square Goodness of Fit Test ✓


☐ Chi Square Test of Independence

☐ Single Sample t-test


☐ Independent Samples t-test

You have used 1 of 1 submissions

(1/1 point)


Reading Check due
May 03, 2016 at 17:00
UTC 

Lecture Videos


Comprehension Check
due May 03, 2016 at
17:00 UTC 

R Tutorial Videos


Pre-Lab

Pre-Lab due May 03,
2016 at 17:00 UTC 

Lab

Lab due May 03, 2016
at 17:00 UTC 

Problem Set

Problem Set due May
03, 2016 at 17:00 UTC 

2b. What is the expected count of **white** offspring? (Round to 2 decimal places.)



Answer: 153.75

You have used 1 of 1 submissions

(1/1 point)

2c. What is the expected count of **yellow** offspring? (Round to 2 decimal places.)



Answer: 30.75

You have used 1 of 1 submissions

(1/1 point)

2d. What is the expected count of **green** offspring? (Round to 2 decimal places.)



You have used 1 of 1 submissions

(1/1 point)

2e. Is the **sample size** condition met?

☒ Yes ☐ No

You have used 1 of 1 submissions

(1/1 point)

2f. What are the **degrees of freedom** and the **critical value** for this test, assuming $\alpha = 0.05$?

Degrees of Freedom



Answer: 2

You have used 1 of 1 submissions

(1/1 point)

Critical Value for $\alpha = .05$: (Round to 2 decimal places.)



Answer: 5.99

You have used 1 of 1 submissions

(1/1 point)

2g. What is the **Chi Square statistic** for this test? (Round to 2 decimal places.)



Answer: 4.29

You have used 1 of 1 submissions

(1/1 point)

2h. What is the appropriate outcome for this hypothesis test?

☐ Reject the null hypothesis

☒ Fail to reject the null hypothesis ✓

You have used 1 of 1 submissions

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