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 point possible)

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

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(1 point possible)

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

Answer: 153.75

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(1 point possible)

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

Answer: 30.75

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(1 point possible)

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

Answer: 20.50

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(1 point possible)

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

- Yes ✔
- No

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(1 point possible)

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

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Degrees of Freedom

Answer: 2

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Critical Value *(Round to 2 decimal places.)*

Answer: 5.99

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(1 point possible)

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

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Answer: 4.29

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(1 point possible)

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

- Reject the null hypothesis
- Fail to reject the null hypothesis ✔

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