Representing a Categorical Variable with Tables Quiz

1. The following frequency table shows the responses from a group of college students who were asked to choose their favorite flavor of ice cream.

Flavor	Frequency
Vanilla	100
Chocolate	65
Strawberry	35
Mint chip	45
Coffee	30
Butter pecan	25

Which of the following statements is not supported by the table?

(A) The number of student responses is 300.

(B) One-third of the students chose vanilla.

(C) One-third of the students chose chocolate or strawberry.

(D) One-fourth of the students chose mint chip or coffee.

(E) One-half of the students chose vanilla or chocolate. ✓

Answer E

Correct. The total frequency of students is $100 + 65 + 35 + 45 + 30 + 25 = 300$. One-half of the students is $\frac{1}{2}(300) = 150$. The number of students who chose vanilla or chocolate is $100 + 65 = 165$. Since $165 \neq 150$, the statement "One-half of the students chose vanilla or chocolate" is not supported by the table.

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2. The following relative frequency table shows the political party affiliation for a sample of 500 people in a certain town.

Political Party	Relative Frequency
Democrat	0.35
Republican	0.30
Independent	0.20
Green Party	0.11
Libertarian	0.03
Other	0.01

Which of the following statements is supported by the table?

(A) The number of people affiliated with the Republicans is 30.

(B) The number of people affiliated with the Independents is 100. ✓

(C) Less than half of the people are affiliated with the Democrats or the Republicans.

(D) At least 200 people are affiliated with the Democrats.

(E) At least 80 people are affiliated with the Green Party or the Libertarians.

Answer B

Correct. 20% of 500 is 100.

3. The following table summarizes the number of pies sold at a booth one day at a local farmers market.

Type of Pie	Frequency
Apple	18
Blueberry	14
Cherry	16
Key Lime	12
Peach	12
Pumpkin	18

Which of the following statements is supported by the table?

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(A) More cherry pies were sold than any other type of pie.

(B) Twice as many apple pies as key lime pies were sold.

(C) More than half the pies sold were apple.

(D) Fewer than 50 pies were sold at the booth that day.

(E) The combined percentage of key lime pies sold and pumpkin pies sold was less than 50%. ✓

Answer E

Correct. The number of key lime pies sold is 12 and the number of pumpkin pies sold is 18. The combined total is 30, which is equal to approximately 33% of the pies sold. Therefore, the combined percentage is less than 50%.