Closed book and notes. No calculators.

For Questions 1–7, consider Montgomery and Runger’s Problem 2–94. In the 2004 presidential election, exit polls from the critical state of Ohio provided the following results. Thirty-eight percent of respondents were college graduates. Of the college graduates, 53% voted for Bush and 46% for Kerry. Of the respondents with no college degree, 50% voted for Bush and 50% voted for Kerry.

1. State an experiment that allows you to answer Questions 2–5.

2. State notation that allows you to answer Questions 3–5.

3. State the given information in terms of your notation.

4. Using your notation, write the fraction of respondents that voted for Bush. (Do no math here.)

5. Determine the fraction of respondents that voted for Bush. (Do math here.)

6. T  F  The event "voted for Bush" is independent of the event "voted for Kerry".

7. T  F  The event "obtained college degree" is independent of the event "voted for Bush".

For Questions 8–10, consider Montgomery and Runger’s Problem 2–100. Suppose that $P(A \mid B) = 0.4$, $P(B) = 0.8$, and $P(A) = 0.5$.

8. T  F  $A \cap B'$ is an event.

9. T  F  The events $A$ and $B$ are independent.

10. T  F  The events $A$ and $B$ are mutually exclusive.