

Answers to 'Q' Questions

9 Hypothesis Testing

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Q9.1

- i) One-Tailed: The test is looking for 'enhancement' - i.e. it is looking for just an increase in performance (one direction) not just a change in performance.
- ii) Two-Tailed: The music may 'affect' performance in either direction - either an increase or decrease - no particular sense of direction.
- iii) One-Tailed: The test is checking whether the filling machine is putting in 'less' cereal than 580g - the Alternative Hypothesis will only be accepted if the contents are less than 580g, giving a sense of direction.
- iv) Two-Tailed: Don't be confused by the phrase 'increase in blood alcohol level' or by any previous believe that the probability of a road accident can only increase.
The statement is looking for a 'change' in probability - either an increase or decrease in the probability. You must read the wording of the statement carefully.

Q9.2

- i) False, $p > 0.01$
- ii) True, $p < 0.05$
- iii) False, "Insufficient evidence to accept the Proposed Hypothesis, H_1 , at a significance level of 0.05".
- iv) False, "Insufficient evidence to accept the Proposed Hypothesis, H_1 , at a significance level of 0.05".