

## Chapter 9 FRAPPY! Student Sample Commentary

### Sample #1

In part (a), the response included correct hypotheses and the parameter was clearly defined. Part (a) was scored essentially correct (E). In part (b), the response identified the correct test and stated both conditions. Although the random sample condition was verified, the response did not earn credit for the normality condition because a graph of the sample data was not included. Part (b) was scored partially correct (P). In part (c), the response correctly calculated the test statistic and  $P$ -value. Part (c) was scored essentially correct (E). In part (d), the response makes the correct decision, links the decision to the  $P$ -value, but does not earn credit for context because the concept of mean is not included. Part (d) was scored partially correct (P). With two parts essentially correct and two parts partially correct, the entire response was judged as substantial and earned a score of 3.

### Sample #2

In part (a), the response used a sample statistic ( $\bar{x}$ ) in the hypotheses and lost credit for the parameter component. However, the response does earn credit for the hypotheses component because the hypotheses were otherwise correct (i.e., two-sided). Part (a) was scored partially correct (P). In part (b), the response identified the correct test but did not identify or check either of the conditions. Part (b) was scored incorrect (I). In part (c), the response correctly calculated the  $P$ -value but did not include the value of the test statistic. Part (c) was scored partially correct (P). In part (d), the response is in context and correctly compares the  $P$ -value to a significance level. However, the response “accepts the null hypothesis” by concluding that the mean price is \$4.06. Part (d) was scored partially correct (P). With three parts partially correct, the entire response was judged as minimal and earned a score of 1.