

# Commentary on candidate evidence

The candidate evidence has achieved the following marks for each section of the project.

## Candidate 1

### Introduction

The candidate was awarded **5/6 marks**.

- <sup>1</sup> ✓ Mark 1 was awarded as the candidate explained a company product and its popularity worldwide, and their claim of equal proportions of each colour.
- <sup>2</sup> ✓ Mark 2 was awarded as the candidate has stated a research question: 'Are the colours/flavours of skittles in a skittles packet truly of equal proportion?'
- <sup>3</sup> ✗ Mark 3 was not awarded as the candidate did not mention the type of data being studied – categorical or numerical.
- <sup>4</sup> ✓ Mark 4 was awarded as the data was gathered personally.
- <sup>5</sup> ✓ Mark 5 was awarded as the candidate stated that although the sampling process was not entirely random, it was chosen over getting all packs from one store.
- <sup>6</sup> ✓ Mark 6 was awarded as the candidate included some discussion about the data being more representative than choosing from one store and acknowledged that the data is not fully robust.

### Subjective impression

The candidate was awarded **6/8 marks**.

- <sup>1</sup> ✓ Mark 1 was awarded as the candidate has shown one of the appropriate graphical displays – Boxplot.
- <sup>2</sup> ✗ Mark 2 was not awarded as the candidate should have used a more indicative graph, for example, a stacked bar chart to compare the distribution of colours in each packet.
- <sup>3</sup> ✓ Mark 3 was awarded as the candidate has identified key information from charts, ie median and interquartile range, and has related these to the context of the research question.
- <sup>4</sup> ✗ Mark 4 was not awarded as the comment is incorrect for the bar chart as it displays the cumulative total for each colour and not the total for the individual packets.
- <sup>5</sup> ✓ Mark 5 was awarded as labels are evident on the boxplot and all tabulated data is included.
- <sup>6</sup> ✓ Mark 6 was awarded as the candidate included appropriate descriptive statistics – mean and standard deviation.
- <sup>7</sup> ✓ Mark 7 was awarded as the candidate included a 5-figure summary.

- <sup>8</sup> ✓ Mark 8 was awarded as the candidate's labelling was clear in the table and throughout their calculations.

## Analysis and interpretation

The candidate was awarded **4/6 marks**.

- <sup>1</sup> ✓ Mark 1 was awarded as the candidate has included a *t*-test for each colour.
- <sup>2</sup> ✓ Mark 2 was awarded as a calculation of confidence interval for each colour of skittle is shown.
- <sup>3</sup> ✓ Mark 3 was awarded as each colour's confidence interval clearly refers to the context of the research question.
- <sup>4</sup> ✗ Mark 4 was not awarded as the *p-value* is not analysed or interpreted.
- <sup>5</sup> ✗ Mark 5 was not awarded because although the mean and standard deviation is calculated, no interpretation is evident.
- <sup>6</sup> ✓ Mark 6 was awarded as the candidate has made appropriate comments in context with the research question.

## Conclusions

The candidate was awarded **3/4 marks**.

- <sup>1</sup> ✓ Mark 1 was awarded as the candidate's statement relates boxplots to the original question.
- <sup>2</sup> ✗ Mark 2 was not awarded as descriptive statistics are not mentioned in any of the written sections.
- <sup>3</sup> ✓ Mark 3 was awarded as the confidence interval was clearly stated in the conclusion to justify the candidate's original question.
- <sup>4</sup> ✓ Mark 4 was awarded as although it was a brief conclusion, the candidate has attempted to link all parts of the project to the original research question.

## Presentation

The candidate was awarded **6/6 marks**.

- <sup>1</sup> ✓ Mark 1 was awarded as the candidate has used appropriate text for the graphical displays.
- <sup>2</sup> ✓ Mark 2 was awarded as appropriate text has been used to introduce descriptive statistics within appropriate sections; the table of values is clear for the mean, standard deviation and the 5-figure summary.
- <sup>3</sup> ✓ Mark 3 was awarded as the confidence interval was clearly listed for each colour.
- <sup>4</sup> ✓ Mark 4 was awarded as all sections contain appropriate headers.
- <sup>5</sup> ✓ Mark 5 was awarded as the research question context is linked throughout each section.

- <sup>6</sup> ✓ Mark 6 was awarded as the candidate has included an appendix of data.

### **Project total**

The word count was within the 2,200 limit and so the candidate was awarded **24/30** overall for the project.