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91584



NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

QUALIFY FOR THE FUTURE WORLD
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SUPERVISOR'S USE ONLY

Level 3 Mathematics and Statistics (Statistics), 2016

91584 Evaluate statistically based reports

2.00 p.m. Thursday 24 November 2016
Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Evaluate statistically based reports.	Evaluate statistically based reports, with justification.	Evaluate statistically based reports, with statistical insight.

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should attempt ALL the questions in this booklet.

Pull out Resource Booklet 91584R from the centre of this booklet.

Show ALL working.

Make sure that you have the Formulae and Tables Booklet L3–STATF.

If you need more room for any answer, use the space provided at the back of this booklet and clearly number the question.

Check that this booklet has pages 2–8 in the correct order and that none of these pages is blank.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

TOTAL



ASSESSOR'S USE ONLY

QUESTION TWO

Refer to **Reports 2a** and **2b** in the resource booklet to answer the following questions.
Report 2a is a media report that was based on the information provided in Report 2b.

- (a) The reported margin of error is 1.7%.
- (i) Show how this margin of error was calculated.

- (ii) Explain why the margin of error should be included in statistical survey reports.

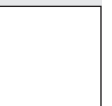
- (b) The media report states that 59% of the survey respondents definitely or possibly favoured a reduction in the serving sizes of sugar drinks.

Construct a confidence interval using this percentage, and interpret this confidence interval.

- (c) Discuss ONE potential issue with the design of the survey and/or questions.

- (d) The first paragraph of Report 2a is based on information and results from Report 2b, specifically the survey percentages for the first sugar consumption question headed “Limit sugar in drinks”.

Discuss the quality of this paragraph.



QUESTION THREE

Refer to **Report 3** in the resource booklet to answer the following questions.

- (a) The report states the margins of error for the 2006 and 2008 surveys were 3.8% and 4.5% respectively.

Explain why the reported margins of error are different for the two surveys.

- (b) A reader of this report has made the following statement to a friend: "A higher proportion of males in the 2008 survey parked in disability parks without a permit than females".

Evaluate what statistical evidence, if any, has been presented in the report to support this statement.
