

# 3

91584



NEW ZEALAND QUALIFICATIONS AUTHORITY  
MANA TOHU MĀTAURANGA O AOTEAROA

QUALIFY FOR THE FUTURE WORLD  
KIA NOHO TAKATŪ KI TŌ ĀMUA AO!

SUPERVISOR'S USE ONLY

## Level 3 Mathematics and Statistics (Statistics), 2018

### 91584 Evaluate statistically based reports

9.30 a.m. Thursday 22 November 2018  
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 2–12 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 ONE**

Refer to **Report 1** in the resource booklet to answer the following questions.

The graph in Report 1 refers to a control group and a treatment group.

- (a) Describe what the control and treatment groups were for this experiment.

---

---

---

---

---

---

---

- (b) The report states that the researchers “split 1095 daily Facebook users into two groups”.

Explain how the allocation (split) of daily Facebook users into two groups should have been done, and why it would be important to allocate the daily Facebook users this way.

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---





- (c) Assume for this part (c) that the sample used for this survey is representative of all New Zealand adults.

Could the following claim be made based on this survey?

*A higher percentage of New Zealand adults gets between seven to eight hours of sleep each night than gets five to six hours (of sleep each night).*

Construct ONE confidence interval and interpret this interval as part of your answer.















