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# **EXAMINERS' REPORTS**

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## **LEVEL 3 CERTIFICATE IN STATISTICAL PROBLEM SOLVING USING SOFTWARE**

**SUMMER 2018**

Grade boundary information for this subject is available on the WJEC public website at:  
<https://www.wjecservices.co.uk/MarkToUMS/default.aspx?l=en>

### **Online Results Analysis**

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### **Annual Statistical Report**

The annual Statistical Report (issued in the second half of the Autumn Term) gives overall outcomes of all examinations administered by WJEC.

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# STATISTICAL PROBLEM SOLVING USING SOFTWARE

## Level 3 Certificate

Summer 2018

### EXTERNAL ASSESSMENT

The general standard was very good.

#### Question 1

- Q.1 (a) This part of the question was answered well. However some candidates lost a mark as they stated that the sampling method was more representative or reduced bias without giving a reason.
- (b) The few candidates who attained full marks for this part selected 32 **distinct** random numbers between 1 and 64 (or 0 and 63).

Many candidates did not allocate the treatment to the selected 32 squares.

#### Question 2

- Q.2 (a) This part of the question was extremely well answered.
- (b) Very few candidates answered that the y-axis does not start at zero.
- (c) Fewer than half of the candidates correctly stated that gender is a categorical or nominal variable.

#### Question 3

Q.3 Very well answered.

#### Question 4

- Q.4 (a) Many candidates lost the mark for this part as they did not include UK in their target population.
- (b) Well answered.
- (c) The hypothesis needed to refer to the target population i.e. (UK) children aged 11-16 or (UK) secondary children. Those who included male/female, boys/girls or adults in their hypotheses lost one mark.
- (d) Very few candidates stated the correct critical value. However, their critical value was carried through to part (e).
- (e) Generally well answered. Candidates who stated there was a significant association with no reference to a test statistic, critical value, null or alternative hypotheses did not gain any marks for this part.

## Question 5

- Q.5 (a) Very well answered.
- (b) Very few candidates did well on this part.
- (c) Many candidates who correctly stated that the mean will be greater than the median, incorrectly stated that this was because the distribution is negatively or left skewed.
- (d) Half of the candidates gained the mark for this part of the question.
- (e) The hypotheses were generally well stated, however all candidates lost a mark by not including medians in the hypotheses. Candidates who stated a one-sided alternative hypothesis gained a second mark.
- (f) Well answered with follow through marks allowed for their hypotheses. Candidates who stated their conclusion with no reference to a test statistic, critical value, null or alternative hypotheses did not gain any marks for this part.



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