S14-test Frequency Tables and Tally Charts: Test Pack

Total Marks

EDEXCEL 1ST0 · Calculator allowed · about 25 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 For each statement about frequency tables and tally charts, write down whether it is True or False.

(i) A tally chart is a way of recording data by making a mark for each item as it is collected. **(1)**

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(ii) In a tally chart, marks are grouped in fives, with the fifth mark drawn as a diagonal line crossing the first four. **(1)**

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(iii) A frequency table displays every individual tally mark, rather than the total count for each category. **(1)**

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(Total for Question 1 is 3 marks)

2 Here are the shoe sizes of 20 pupils in a class, in the order they were recorded:

6, 5, 7, 6, 8, 5, 6, 9, 6, 7, 5, 6, 8, 7, 6, 5, 9, 6, 7, 5

(a) Complete a tally chart and frequency table for shoe sizes 5, 6, 7, 8 and 9, using the raw list above. **(3)**

(b) Write down the modal shoe size. **(1)**

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(c) Work out the total number of pupils, and use it to check your frequency table is correct. **(2)**

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(Total for Question 2 is 6 marks)

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3 60 students were asked whether they walk or take the bus to school, split by year group.

Year group	Walk	Bus
Year 7	12	8
Year 8	15	25

Work out the total number of students, across both year groups, who walk to school.

(Total for Question 3 is 2 marks)

4 40 pupils were asked whether they preferred football or swimming. The two-way table shows the results, with some entries given as tally marks.

Group	Football	Swimming
Boys	||||| ||||| ||	10
Girls	8	||||| |||||

(a) Convert the two tally entries in the table into frequencies. **(2)**

(b) Work out the total number of boys, and the total number of girls, who took part in the survey. **(2)**

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(c) Use the row and column totals to work out the total number of pupils who preferred swimming. **(2)**

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(Total for Question 4 is 6 marks)

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5 A researcher wants to find out how many hours per week local people spend exercising. She plans to stand outside a gym on a weekday morning and ask the first 30 people she sees to tally their answer into pre-set class intervals.

(a) Give two reasons why this sample might not be representative of 'local people' in general. **(2)**

(b) Suggest one improvement the researcher could make to her data collection method. **(2)**

(Total for Question 5 is 4 marks)

6 A student wants to find out which of three snacks (crisps, fruit, biscuits) is most popular among 28 classmates. She asks each classmate in turn and records each answer as it is given:

Crisps, Fruit, Biscuits, Crisps, Crisps, Fruit, Biscuits, Crisps, Fruit, Crisps, Biscuits, Fruit, Crisps, Fruit, Biscuits, Crisps, Fruit, Crisps, Biscuits, Fruit, Crisps, Fruit, Biscuits, Crisps, Fruit, Crisps, Biscuits, Fruit

Complete a frequency table for this data, write down the mode, and work out how many more classmates chose crisps than chose biscuits.

(Total for Question 6 is 4 marks)

Mark scheme · S14-test Frequency Tables and Tally Charts: Test Pack

Question 1

- (i) **B1** True cao
- **(i) Answer: True**
- (ii) **B1** True cao
- **(ii) Answer: True**
- (iii) **B1** False cao
- **(iii) Answer: False**

Question 2

- (a) **B2** all five frequencies correct: 5, 7, 4, 2, 2 (for sizes 5, 6, 7, 8, 9)
- (a) **B1** tally marks correctly grouped in fives throughout
- **(a) Answer: Size 5: 5, Size 6: 7, Size 7: 4, Size 8: 2, Size 9: 2**
- (b) **B1** 6 cao ft
- **(b) Answer: 6**
- (c) **M1** 5 + 7 + 4 + 2 + 2, oe ft their frequencies
- (c) **A1** 20 cao ft, matching the 20 pupils in the list
- **(c) Answer: 20**

Question 3

- **M1** 12 + 15, oe
- **A1** 27 cao
- **Answer: 27**

Question 4

- (a) **B1** Boys-Football: 12 cao
- (a) **B1** Girls-Swimming: 10 cao
- **(a) Answer: Boys-Football = 12, Girls-Swimming = 10**
- (b) **M1** 12 + 10 and 8 + 10, oe ft
- (b) **A1** Boys = 22 and Girls = 18, cao ft
- **(b) Answer: Boys = 22, Girls = 18**
- (c) **M1** 10 + 10, oe ft (Boys-Swimming + Girls-Swimming)
- (c) **A1** 20 cao ft
- **(c) Answer: 20**

Question 5

- (a) **B1** standing outside a gym oversamples people who already exercise regularly, compared with the wider local population
- (a) **B1** a weekday morning misses people who are at work or school at that time, so the sample is biased towards those who are free then
- **(a) Answer: The location oversamples regular exercisers, and the timing misses people who work weekday mornings.**
- (b) **B2** a valid, justified improvement, e.g. selecting people at random from several different locations and at different times of day/week, not only outside a gym on one weekday morning
- **(b) Answer: Sample people at random from a range of locations and times, not only outside a gym on a weekday morning.**

Question 6

- **B2** all three frequencies correct: Crisps = 11, Fruit = 10, Biscuits = 7
- **B1** Crisps cao ft (mode)
- **B1** 4 cao ft
- **Answer: Crisps = 11, Fruit = 10, Biscuits = 7; mode = Crisps; 4 more classmates chose crisps than biscuits**