



S14-30min Frequency Tables and Tally Charts: 30-minute Pack

EDEXCEL 1ST0 · Calculator allowed · about 30 minutes

Total Marks

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Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

- 1** Write down the frequency shown by this tally mark: ||||

(Total for Question 1 is 1 mark)

- 2** The table shows the number of pupils in a class who chose each pet as their favourite.

Pet	Frequency
Dog	6
Cat	6
Fish	3
Bird	2

- (a)** Write down the mode or modes of favourite pet.

(1)

- (b)** Work out the total number of pupils in the class.

(2)

(Total for Question 2 is 3 marks)

- 3** 40 customers were asked whether they preferred a window seat or an aisle seat on a train. The frequency table shows some of the results.

Seat	Frequency
Window	24
Aisle	?
Total	40

Work out the frequency for Aisle.

(Total for Question 3 is 2 marks)

- 4** 24 pupils were asked how many pets they own. The tally chart shows the results, but the frequency column is incomplete.

Number of pets	Tally	Frequency
0		?
1		?
2		?
3		?

(a) Complete the frequency column of the table.

(2)

(b) Work out the total number of pupils in the survey.

(2)

(Total for Question 4 is 4 marks)

- 5** The times, in seconds, taken by 20 runners to complete a sprint are recorded below, in the order the runners finished:

14.1, 12.3, 16.4, 18.2, 15.6, 13.9, 19.8, 14.8, 17.5, 12.9, 15.0, 18.9, 16.7, 14.6, 13.4, 19.2, 17.1, 15.9, 18.4, 14.2

- (a)** Complete a grouped tally chart and frequency table for this data, using the class intervals 12-13.9, 14-15.9, 16-17.9 and 18-19.9 seconds. **(3)**

- (b)** Write down the modal class. **(1)**

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(Total for Question 5 is 4 marks)

- 6** The two-way table shows the favourite subject (Maths, English or Science) of pupils in Year 9 and Year 10.

Year group	Maths	English	Science	Total
Year 9	14	10	6	30
Year 10	9	15	11	35
Total	23	25	17	65

- (a)** Write down the total number of pupils surveyed. **(1)**

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(b) Work out how many more Year 10 pupils chose English than chose Science. **(2)**

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(c) A pupil says, 'More pupils overall chose Science than chose English.' Use the table to show that the pupil is wrong, and give the correct comparison. **(2)**

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(Total for Question 6 is 5 marks)

- 7 A pupil records the number of pets owned by her class using a tally chart, then copies the frequencies into a table. The register shows that there are 26 pupils in the class, but she thinks she may have made a copying error somewhere.

Pets owned	Tally	Frequency (as she wrote it)
0		8
1		8
2		5
3		3

- (a) Show that the frequencies she has written do not add up to the 26 pupils on the register. (2)
- (b) Identify which row's frequency was copied incorrectly from the tally, and state the correct frequency for that row. (2)

(Total for Question 7 is 4 marks)

8 A student wants to investigate which lunch option is most popular among Year 8 pupils: a hot meal, a packed lunch, or a home lunch (going home to eat). This question follows her investigation through the stages of the statistical enquiry cycle.

(a) Plan: Design a suitable data collection sheet that the student could use to record each pupil's answer as she asks them, one at a time. (2)

(b) Collect: The student asks 24 pupils and notes down each answer as it is given: (3)

Hot meal, Packed lunch, Hot meal, Home lunch, Packed lunch, Hot meal, Hot meal, Packed lunch, Home lunch, Hot meal, Packed lunch, Hot meal, Home lunch, Packed lunch, Hot meal, Packed lunch, Hot meal, Home lunch, Packed lunch, Hot meal, Packed lunch, Home lunch, Hot meal, Packed lunch

Complete the tally chart and frequency table for this data.

(c) Process: Write down the mode of the pupils' lunch choices, and work out the total number of pupils who chose either a packed lunch or a home lunch. (3)

(d) Interpret: The student concludes, 'Most pupils bring a packed lunch.' Use your frequency table to say whether the student's conclusion is correct, and explain your reasoning. (2)

(Total for Question 8 is 10 marks)

Mark scheme • S14-30min Frequency Tables and Tally Charts: 30-minute Pack

Question 1

- **B1** 4 cao
- **Answer: 4**

Question 2

- (a) **B1** Dog and Cat cao (bimodal)
- (a) **Answer: Dog and Cat**
- (b) **M1** $6 + 6 + 3 + 2$, oe
- (b) **A1** 17 cao
- (b) **Answer: 17**

Question 3

- **M1** $40 - 24$, oe
- **A1** 16 cao
- **Answer: 16**

Question 4

- (a) **B2** all four frequencies correct: 4, 8, 10, 2
- (a) **Answer: 0 pets: 4, 1 pet: 8, 2 pets: 10, 3 pets: 2**
- (b) **M1** $4 + 8 + 10 + 2$, oe ft their frequencies
- (b) **A1** 24 cao ft
- (b) **Answer: 24**

Question 5

- (a) **B2** all four frequencies correct: 4, 7, 4, 5
- (a) **B1** every time tallied into exactly one class, with no overlaps or gaps between the given intervals
- (a) **Answer: 12-13.9: 4, 14-15.9: 7, 16-17.9: 4, 18-19.9: 5**
- (b) **B1** 14-15.9 cao ft
- (b) **Answer: 14-15.9 seconds**

Question 6

- (a) **B1** 65 cao
- (a) **Answer: 65**
- (b) **M1** $15 - 11$, oe
- (b) **A1** 4 cao
- (b) **Answer: 4**
- (c) **M1** identifies the column totals: Science = 17 and English = 25, oe
- (c) **A1** correct conclusion: English (25) is greater than Science (17), so the pupil is wrong
- (c) **Answer: The pupil is wrong: 25 pupils chose English compared with 17 who chose Science.**

Question 7

- (a) **M1** $8 + 8 + 5 + 3$, oe
- (a) **A1** 24, which is not equal to 26
- (a) **Answer: 24 (not 26)**
- (b) **B1** 0 pets row identified
- (b) **B1** 10 cao
- (b) **Answer: 0 pets: should be 10, not 8**

Question 8

- (a) **B1** three appropriate, non-overlapping categories listed matching the context (hot meal, packed lunch, home lunch)
- (a) **B1** a tally column and a frequency column included, both correctly labelled
- (a) **Answer: A table with columns 'Lunch option', 'Tally' and 'Frequency', with the three categories listed as rows.**
- (b) **B2** all three frequencies correct: Hot meal = 10, Packed lunch = 9, Home lunch = 5
- (b) **B1** tally marks correctly grouped in fives
- (b) **Answer: Hot meal: 10, Packed lunch: 9, Home lunch: 5**
- (c) **B1** Hot meal 10, Packed lunch 9, Home lunch 5
- (c) **M1** 9 + 5, oe ft
- (c) **A1** 14 oe ft
- (c) **Answer: Mode: Hot meal; packed lunch or home lunch: 14**
- (d) **M1** compares the mode (Hot meal, 10) with Packed lunch (9), oe ft
- (d) **A1** concludes the student is incorrect, since Hot meal (10) was chosen by more pupils than Packed lunch (9), ft
- (d) **Answer: The student is incorrect: Hot meal (10 pupils) was more popular than Packed lunch (9 pupils).**