2.9 Frequency Tables and Tally Charts: 1-hour Pack

EDEXCEL 1ST0 · Calculator allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A tally chart shows the lunches chosen by pupils. In the tally, each ||||/ stands for a group of 5.

Category	Tally
pizza	|||
pasta	||||/ ||||/ ||||/
curry	||||/ ||||/ ||||
salad	||||/ ||||/

(a) Write down the frequency for each category.

(b) Work out the total frequency.

(c) What fraction of the total is pizza? Give your answer in its simplest form.

(Total for Question 1 is 4 marks)

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2 Here are the lengths, in centimetres, of 20 leaves.

11, 6, 8, 9, 34, 31, 19, 28, 24, 30, 14, 27, 8, 9, 14, 14, 37, 38, 21, 25

(a) Complete a grouped frequency table using the classes $0 < x \leq 10$, $10 < x \leq 20$, $20 < x \leq 30$, $30 < x \leq 40$.
(b) Write down the modal class.
(c) What fraction of the values are in the modal class? Give your answer in its simplest form.

(Total for Question 2 is 4 marks)

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3 A pictogram shows the number of cars sold by a garage. Each full symbol represents 20 cars.

Category	Symbols drawn
Year 7	7 symbols
Year 8	4 symbols
Year 9	6 symbols and a half symbol
Year 10	1 symbols
Year 11	5 symbols

(a) How many more cars are shown for Year 11 than for Year 9?
(b) Write the number for Year 9 as a fraction of the total, in its simplest form.

(Total for Question 3 is 4 marks)

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4 A tally chart shows the types of weather on days in a term. In the tally, each ||||/ stands for a group of 5.

Category	Tally
red	||||/ ||||/
blue	||||/ ||||/ |||
silver	||||/ ||||/ ||||/
black	||||/ ||||/ ||||/ ||
white	||||/ ||||

(a) Write down the frequency for each category.
(b) Work out the total frequency.
(c) What fraction of the total is blue? Give your answer in its simplest form.

(Total for Question 4 is 4 marks)

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5 Here are the marks of 20 students in a test out of 50.

9, 12, 14, 26, 16, 11, 5, 47, 36, 40, 18, 41, 25, 12, 18, 42, 16, 7, 17, 30

(a) Complete a grouped frequency table using the classes $0 < x \leq 10$, $10 < x \leq 20$, $20 < x \leq 30$, $30 < x \leq 40$, $40 < x \leq 50$.
(b) Write down the modal class.
(c) What fraction of the values are in the modal class? Give your answer in its simplest form.

(Total for Question 5 is 4 marks)

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6 A pictogram shows the number of people who visited a library. Each full symbol represents 20 people.

Category	Symbols drawn
Monday	6 symbols and a half symbol
Tuesday	1 symbols and a half symbol
Wednesday	1 symbols
Thursday	1 symbols
Friday	4 symbols

(a) How many more people are shown for Tuesday than for Thursday?
(b) Write the number for Thursday as a fraction of the total, in its simplest form.

(Total for Question 6 is 4 marks)

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7 Here are the number of minutes 20 customers waited in a queue.

23, 34, 22, 17, 22, 22, 2, 19, 25, 11, 24, 37, 18, 35, 37, 22, 23, 21, 7, 34

(a) Complete a grouped frequency table using the classes $0 < x \leq 10$, $10 < x \leq 20$, $20 < x \leq 30$, $30 < x \leq 40$.
(b) Write down the modal class.
(c) What fraction of the values are in the modal class? Give your answer in its simplest form.

(Total for Question 7 is 4 marks)

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8 A pictogram shows the number of pizzas sold by a takeaway. Each full symbol represents 20 pizzas.

Category	Symbols drawn
Red	6 symbols
Blue	1 symbols
Green	2 symbols
Yellow	1 symbols and a half symbol
Black	7 symbols

(a) How many pizzas does Green represent?

(b) Work out the total number of pizzas for all 5 categories.

(Total for Question 8 is 4 marks)

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9 A tally chart shows the sports chosen at a club. In the tally, each ||||/ stands for a group of 5.

Category	Tally
walk	||||/ ||||
bus	||||/ |||
car	||||/ ||||/
cycle	||||

(a) Write down the frequency for each category.

(b) Work out the total frequency.

(c) What fraction of the total is walk? Give your answer in its simplest form.

(Total for Question 9 is 4 marks)

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10 A pictogram shows the number of books borrowed. Each full symbol represents 2 books.

Category	Symbols drawn
Cafe A	4 symbols and a half symbol
Cafe B	4 symbols
Cafe C	2 symbols
Cafe D	7 symbols
Cafe E	7 symbols

Next week the number for Cafe C is 29 books. How many symbols should be drawn for Cafe C next week? Give your answer as a whole number of symbols and halves.

(Total for Question 10 is 2 marks)

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11 A tally chart shows the sports chosen at a club. In the tally, each ||||/ stands for a group of 5.

Category	Tally
red	||
blue	||
silver	||||/ ||||/ ||
black	||
white	||||/ ||||/ ||||/

(a) Write down the frequency for each category.
(b) Work out the total frequency.
(c) What fraction of the total is silver? Give your answer in its simplest form.

(Total for Question 11 is 4 marks)

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12 Here are the marks of 20 students in a test out of 50.

20, 16, 48, 16, 43, 43, 47, 24, 26, 27, 17, 9, 20, 17, 23, 26, 11, 28, 5, 6

(a) Complete a grouped frequency table using the classes $0 < x \leq 10$, $10 < x \leq 20$, $20 < x \leq 30$, $30 < x \leq 40$, $40 < x \leq 50$.
(b) Write down the modal class.
(c) What fraction of the values are in the modal class? Give your answer in its simplest form.

(Total for Question 12 is 4 marks)

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13 A tally chart shows the types of weather on days in a term. In the tally, each ||||/ stands for a group of 5.

Category	Tally
red	||||/ ||||/ ||||/
blue	||||/
silver	||||/ ||||/ ||||/ ||||
black	||||/ ||||/ ||||/
white	|||

(a) Write down the frequency for each category.
(b) Work out the total frequency.
(c) What fraction of the total is silver? Give your answer in its simplest form.

(Total for Question 13 is 4 marks)

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14 Here are the number of minutes 20 customers waited in a queue.

2, 22, 24, 15, 17, 1, 12, 17, 31, 18, 39, 34, 13, 31, 20, 8, 2, 31, 2, 11

(a) Complete a grouped frequency table using the classes $0 < x \leq 10$, $10 < x \leq 20$, $20 < x \leq 30$, $30 < x \leq 40$.
(b) Write down the modal class.
(c) What fraction of the values are in the modal class? Give your answer in its simplest form.

(Total for Question 14 is 4 marks)

15 A pictogram shows the number of pizzas sold by a takeaway. Each full symbol represents 50 pizzas.

Category	Symbols drawn
Red	1 symbols
Blue	4 symbols
Green	5 symbols
Yellow	7 symbols
Black	1 symbols and a half symbol

(a) How many more pizzas are shown for Yellow than for Black?
(b) Write the number for Black as a fraction of the total, in its simplest form.

(Total for Question 15 is 4 marks)

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Mark scheme · 2.9 Frequency Tables and Tally Charts: 1-hour Pack

Question 1

counts groups of 5 plus the extra strokes	**M1**
frequencies 3, 15, 14, 10 cao	**A1**
42 cao	**B1**
1/14 cao	**B1**

Answer: (a) 3, 15, 14, 10; (b) 42; (c) 1/14

Question 2

tally or count with consistent classes (a value on a boundary goes in the lower class)	**M1**
frequencies 5, 5, 6, 4 cao	**A1**
$20 < x \leq 30$	**B1**
3/10 cao	**B1**

Answer: (a) 5, 5, 6, 4; (b) $20 < x \leq 30$; (c) 3/10

Question 3

values for both categories found using the key	**M1**
30 (negative, so fewer)	**A1**
130 / 470	**M1**
13/47 cao	**A1**

Answer: (a) -30; (b) 13/47

Question 4

counts groups of 5 plus the extra strokes	**M1**
frequencies 10, 13, 15, 17, 9 cao	**A1**
64 cao	**B1**
13/64 cao	**B1**

Answer: (a) 10, 13, 15, 17, 9; (b) 64; (c) 13/64

Question 5

tally or count with consistent classes (a value on a boundary goes in the lower class)	**M1**
frequencies 3, 9, 3, 2, 3 cao	**A1**
$10 < x \leq 20$	**B1**
9/20 cao	**B1**

Answer: (a) 3, 9, 3, 2, 3; (b) $10 < x \leq 20$; (c) 9/20

Question 6

values for both categories found using the key	**M1**
10 cao	**A1**
20 / 280	**M1**
1/14 cao	**A1**

Answer: (a) 10; (b) 1/14

Question 7

tally or count with consistent classes (a value on a boundary goes in the lower class)	**M1**
frequencies 2, 4, 9, 5 cao	**A1**
$20 < x \leq 30$	**B1**
9/20 cao	**B1**

Answer: (a) 2, 4, 9, 5; (b) $20 < x \leq 30$; (c) 9/20

Question 8

2 x 20	**M1**
40 cao	**A1**
adds all the values	**M1**
350 cao	**A1**

Answer: (a) 40; (b) 350

Question 9

counts groups of 5 plus the extra strokes	**M1**
frequencies 9, 8, 10, 4 cao	**A1**
31 cao	**B1**
9/31 cao	**B1**

Answer: (a) 9, 8, 10, 4; (b) 31; (c) 9/31

Question 10

29 / 2	**M1**
14.5 symbols cao	**A1**

Answer: 14.5 symbols

Question 11

counts groups of 5 plus the extra strokes	**M1**
frequencies 2, 2, 12, 2, 15 cao	**A1**
33 cao	**B1**
4/11 cao	**B1**

Answer: (a) 2, 2, 12, 2, 15; (b) 33; (c) 4/11

Question 12

tally or count with consistent classes (a value on a boundary goes in the lower class)	**M1**
frequencies 3, 7, 6, 0, 4 cao	**A1**
$10 < x \leq 20$	**B1**
7/20 cao	**B1**

Answer: (a) 3, 7, 6, 0, 4; (b) $10 < x \leq 20$; (c) 7/20

Question 13

counts groups of 5 plus the extra strokes	**M1**
frequencies 15, 5, 19, 15, 3 cao	**A1**
57 cao	**B1**
1/3 cao	**B1**

Answer: (a) 15, 5, 19, 15, 3; (b) 57; (c) 1/3

Question 14

tally or count with consistent classes (a value on a boundary goes in the lower class)	**M1**
frequencies 5, 8, 2, 5 cao	**A1**
$10 < x \leq 20$	**B1**
2/5 cao	**B1**

Answer: (a) 5, 8, 2, 5; (b) $10 < x \leq 20$; (c) 2/5

Question 15

values for both categories found using the key	**M1**
275 cao	**A1**
75 / 925	**M1**
3/37 cao	**A1**

Answer: (a) 275; (b) 3/37

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