

Other Summary Statistics – GCSE Statistics**1. No.11**

Lauren plays online games with 6 friends.

She likes to pick at random which friend she invites to join the game first.

Explain how Lauren could use a single dice to pick one of these friends at random.

[3 marks]

2. No.12

Here is a table showing the cumulative frequencies for the length of 140 sales calls (in minutes) made by Kelly last week.

Length of call t (in minutes)	Cumulative frequency	Length of call t (in minutes)	Frequency
$t \leq 2$	30	$0 < t \leq 2$	
$t \leq 4$	80	$2 < t \leq 4$	
$t \leq 6$	92	$4 < t \leq 6$	
$t \leq 8$	116	$6 < t \leq 8$	
$t \leq 10$	124	$8 < t \leq 10$	
$t \leq 12$	136	$10 < t \leq 12$	
$t \leq 14$	140	$12 < t \leq 14$	

- (a) How many calls were 10 minutes or shorter?

[1 mark]

Answer _____

- (b) How many calls were **more** than 12 minutes?

[2 marks]

Answer _____

- (c) Which two-minute interval is the modal class?

Justify your answer with calculations.

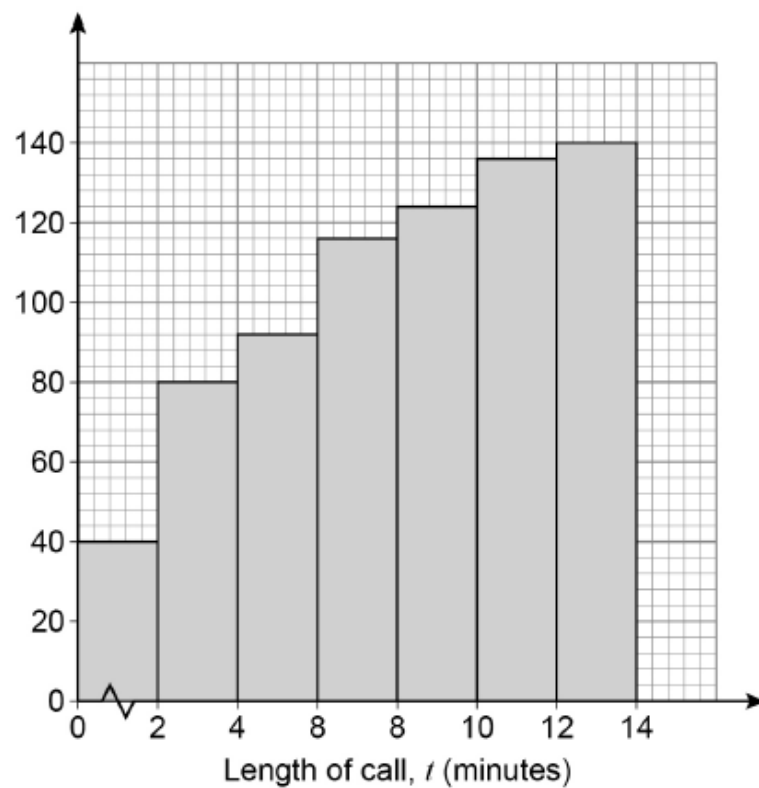
It may help to complete the extra column in the table at the top of this page.

[3 marks]

Modal class _____ minutes

- (d) Kelly tries to draw a cumulative frequency graph for her call data.

This graph has several errors.



Identify **three** of the errors in the graph.

[3 marks]

Error 1 _____

Error 2 _____

Error 3 _____

3. No.5

Pierre is collecting data about people and their visits to the cinema.

He hands out questionnaires for people to fill in after they have been to a cinema.

(a) One of the questions is about age.

Tick (✓) a box to indicate your age, a (years).

☐ $a < 18$ ☐ $18 < a \leq 40$ ☐ $40 < a \leq 60$ ☐ $a > 60$

Give **two** criticisms of Pierre's question about age.

[2 marks]

Criticism 1 _____

Criticism 2 _____

- (b) Pierre also asks this question about regularity of cinema visits.

Tick (✓) how often you visit the cinema.

☐

never

☐

once

☐

twice or more

Give **two** criticisms of this question.

[2 marks]

Criticism 1 _____

Criticism 2 _____

4. No.6

- (a) The total number of cars on the road in the UK in 2017 was 32 000 000.
The number of cars stolen in the UK in 2017 was 86 000.

Calculate the risk of a car being stolen in 2017.

Give your answer as a percentage.

[2 marks]

Answer _____ %

- (b) The risk of a car being stolen in 2013 was 0.21%.

- (b) (i) Compare the risk of a car being stolen in 2013 with the risk in 2017.

[1 mark]

- (b) (ii) There were 30 900 000 cars in the UK in 2013.

Calculate an estimate of the number of cars that were stolen in 2013.

[2 marks]

Answer _____