



S25-test Histograms: Test Pack

EDEXCEL 1ST0 · Calculator allowed · about 15 minutes

Total Marks

Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

- 1** For each grouped frequency table described below, write down whether the class widths are equal or unequal.

(i) Class boundaries (time, minutes): 0, 15, 30, 45, 60 (1)

(ii) Class boundaries (mass, kg): 0, 5, 15, 40 (1)

(Total for Question 1 is 2 marks)

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- 2** For each statement about histograms, write down whether it is True or False.

(i) Frequency density is calculated as frequency divided by class width. (1)

(ii) In a histogram, all the bars must have the same width. (1)

(iii) The vertical axis of a histogram should be labelled 'Frequency density', not 'Frequency'. (1)

(Total for Question 2 is 3 marks)

3 Use the formula frequency density = frequency / class width for each part.

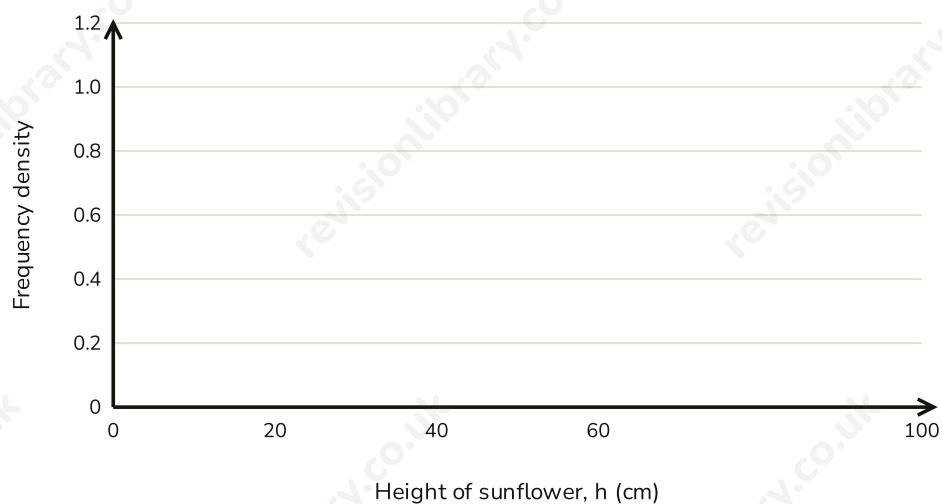
(a) A class has frequency density 4 and class width 7. Work out the frequency for this class. (2)

(b) A different class has frequency 54 and frequency density 9. Work out the class width. (2)

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(Total for Question 3 is 4 marks)

- 4 A gardener recorded the height, h (cm), of 48 sunflower plants grown from the same batch of seeds, using unequal class widths. Some entries in the table are missing.

Height, h (cm)	Frequency	Class width	Frequency density
$0 \leq h < 20$	6	20	?
$20 \leq h < 40$	22	20	?
$40 \leq h < 60$	12	20	?
$60 \leq h < 100$	8	40	?



- (a) Complete the table by calculating the four missing frequency densities. (4)

- (b) On the grid, draw a histogram to show this information. (3)

(Total for Question 4 is 7 marks)

Mark scheme · S25-test Histograms: Test Pack

Question 1

- (i) **B1** Equal cao
- (i) **Answer: Equal**
- (ii) **B1** Unequal cao
- (ii) **Answer: Unequal**

Question 2

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

Question 3

- (a) **M1** 4×7 , oe
- (a) **A1** 28 cao
- (a) **Answer: 28**
- (b) **M1** $54 / 9$, oe
- (b) **A1** 6 cao
- (b) **Answer: 6**

Question 4

- (a) **B1** 0.3 cao (6 / 20)
- (a) **B1** 1.1 cao (22 / 20)
- (a) **B1** 0.6 cao (12 / 20)
- (a) **B1** 0.2 cao (8 / 40)
- (a) **Answer: 0.3, 1.1, 0.6, 0.2**
- (b) **B1** a suitable linear scale used on the frequency density axis, starting at 0
- (b) **B1** all four bars drawn to the correct height (0.3, 1.1, 0.6, 0.2), ft from (a), tolerance $\pm$ half a small square
- (b) **B1** bars drawn with no gaps between them, chart fully labelled
- (b) **Answer: Histogram with bars of frequency density 0.3, 1.1, 0.6, 0.2 across the four classes, drawn touching with no gaps.**