HIGHER

7.16 Histograms: 10-minute Pack

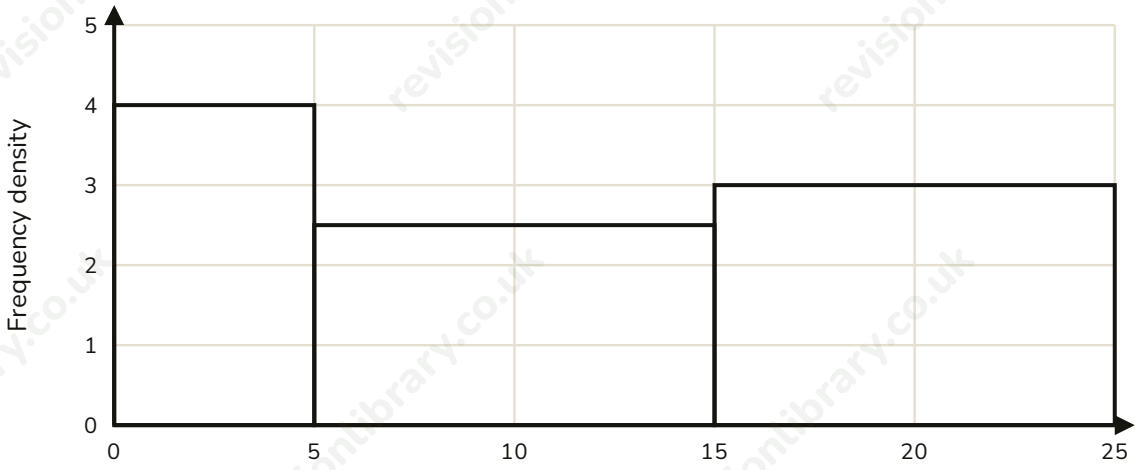
EDEXCEL 1MA1 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

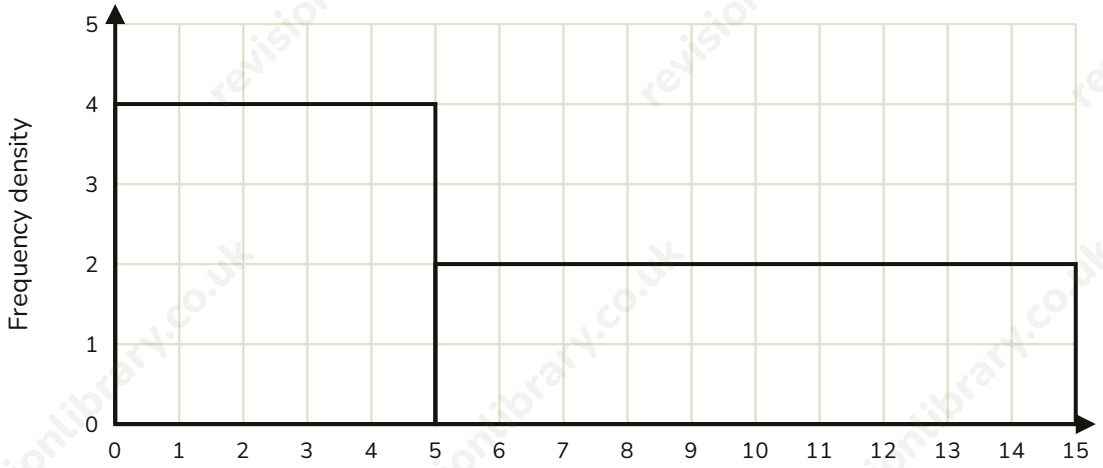
1 A histogram has classes 0-5, 5-15 and 15-25. The class widths are 5, 10 and 10. The frequency densities are 4, 2.5 and 3 respectively.
Work out the frequency of the class 5-15.



(Total for Question 1 is 2 marks)

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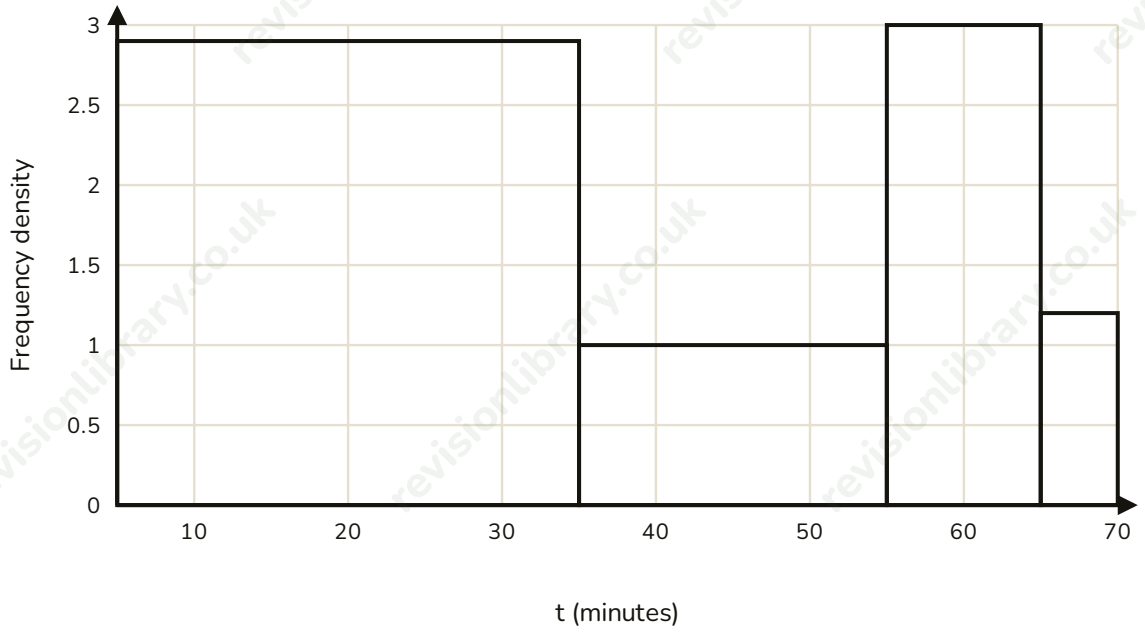
2 A histogram has classes 0-5 (density 4) and 5-15 (density 2).
Estimate the number of observations with $3 \leq x < 8$.



(Total for Question 2 is 3 marks)

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3 A histogram shows the time (t minutes) of some items. The heights of the bars (frequency densities) are: $5 < t \leq 35$: bar height 2.9; $35 < t \leq 55$: bar height 1; $55 < t \leq 65$: bar height 3; $65 < t \leq 70$: bar height 1.2. Work out an estimate for the number of items with t greater than 45.



(Total for Question 3 is 4 marks)

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Mark scheme · 7.16 Histograms: 10-minute Pack

Question 1

multiply density by class width (2.5 × 10)	**M1**
25 cao	**A1**

Answer: 25 (because frequency = 2.5 × 10 = 25).

Question 2

estimate contribution from 3-5: length 2 × density 4 = 8	**M1**
estimate contribution from 5-8: length 3 × density 2 = 6	**M1**
14 cao	**A1**

Answer: 14 (8 from 3-5 plus 6 from 5-8).

Question 3

fd x (55 - 45) for the class containing 45	**M1**
frequencies of the later classes found	**M1**
adds all the parts	**M1**
46 cao	**A1**

Answer: 46

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