6.8 Grouped Data and the Estimated Mean: 1-hour Pack

Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 The table shows the number of goals for a group of people.
number of goals = 3: frequency 8; number of goals = 4: frequency 10; number of goals = 5: frequency 1; number of goals = 6: frequency 11; number of goals = 7: frequency 5.
Work out the range.

(2)

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2 The grouped frequency table shows the score of 40 people. 50 to 59: 2; 60 to 69: 4; 70 to 79: 9; 80 to 89: 10; 90 to 99: 15.
Work out an estimate of the mean.

(4)

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3 The table shows the number of goals for a group of people.
number of goals = 3: frequency 10; number of goals = 4: frequency 8; number of goals = 5: frequency 3; number of goals = 6: frequency 12; number of goals = 7: frequency 2.
Work out the median.

(3)

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4 The scores of 20 players in a game are: 40, 32, 43, 31, 40, 39, 38, 39, 31, 37, 30, 41, 37, 44, 42, 40, 44, 40, 35, 43.
Complete a grouped frequency table using the class intervals 30 to 34, 35 to 39 and 40 to 44.

(3)

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5 The table shows the number of goals for a group of people.
number of goals = 1: frequency 11; number of goals = 2: frequency 6; number of goals = 3: frequency 2; number of goals = 4: frequency 7; number of goals = 5: frequency 7; number of goals = 6: frequency 7.
Work out the number of people with a value greater than the mean.

(4)

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6 The scores of 12 players in a game are: 22, 18, 21, 22, 16, 22, 24, 21, 12, 14, 10, 22.
Complete a grouped frequency table using the class intervals 10 to 14, 15 to 19 and 20 to 24.

(3)

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7 The grouped frequency table shows the score of 30 people. 20 to 24: 3; 25 to 29: 11; 30 to 34: 6; 35 to 39: 10.
Write down the modal class.

(1)

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8 The grouped frequency table shows the score of 27 people. 50 to 54: 3; 55 to 59: 2; 60 to 64: 7; 65 to 69: 15.
Work out which class contains the median.

(3)

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9 The grouped frequency table shows the mass in kg of 26 people. 50 to 54: 3; 55 to 59: 11; 60 to 64: 4; 65 to 69: 8.
Work out an estimate of the mean.

(4)

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10 The grouped frequency table shows the time in seconds of 40 people. 20 to 29: 11; 30 to 39: 9; 40 to 49: 5; 50 to 59: 3; 60 to 69: 12.
Write down the modal class.

(1)

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11 The scores of 19 players in a game are: 16, 15, 12, 17, 24, 23, 22, 23, 14, 12, 11, 17, 13, 18, 23, 22, 17, 14, 23.
Complete a grouped frequency table using the class intervals 10 to 14, 15 to 19 and 20 to 24.

(3)

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12 The grouped frequency table shows the score of 28 people. 20 to 24: 12; 25 to 29: 6; 30 to 34: 5; 35 to 39: 5.
Write down the modal class.

(1)

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13 The scores of 16 players in a game are: 10, 31, 30, 36, 20, 10, 23, 25, 19, 29, 13, 16, 24, 21, 24, 20.
Complete a grouped frequency table using the class intervals 10 to 19, 20 to 29 and 30 to 39.

(3)

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14 The grouped frequency table shows the score of 50 people. 10 to 19: 15; 20 to 29: 11; 30 to 39: 12; 40 to 49: 12.
Work out an estimate of the mean.

(4)

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15 The scores of 12 players in a game are: 34, 20, 33, 28, 21, 25, 29, 24, 26, 29, 31, 29.
Complete a grouped frequency table using the class intervals 20 to 24, 25 to 29 and 30 to 34.

(3)

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16 The table shows the number of goals for a group of people.
number of goals = 1: frequency 9; number of goals = 2: frequency 6; number of goals = 3: frequency 6; number of goals = 4: frequency 2; number of goals = 5: frequency 6; number of goals = 6: frequency 8.
Work out the total frequency and the mode.

(2)

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17 The scores of 14 players in a game are: 15, 13, 14, 16, 14, 14, 15, 11, 10, 16, 20, 11, 13, 14.
Complete a grouped frequency table using the class intervals 10 to 14, 15 to 19 and 20 to 24.

(3)

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Mark scheme · 6.8 Grouped Data and the Estimated Mean: 1-hour Pack

Question 1

7 - 3	M1
4 cao	A1

Answer: **4**

Question 2

uses midpoints of the classes	M1
multiplies midpoints by frequencies	M1
total fx = 3300 divided by 40	M1
82.5 cao	A1

Answer: **82.5**

Question 3

35 values in total, median at position 18	M1
cumulative frequency used	M1
4 cao	A1

Answer: **4**

Question 4

tally or count of at least one class	M1
two frequencies correct	A1
30 to 34: 4, 35 to 39: 6, 40 to 44: 10 cao	A1

Answer: **30 to 34: 4, 35 to 39: 6, 40 to 44: 10**

Question 5

fx column	M1
mean = 134 ÷ 40	M1
identifies the values above the mean	M1
21 cao	A1

Answer: **21**

Question 6

tally or count of at least one class	M1
two frequencies correct	A1
10 to 14: 3, 15 to 19: 2, 20 to 24: 7 cao	A1

Answer: **10 to 14: 3, 15 to 19: 2, 20 to 24: 7**

Question 7

25 to 29 cao	B1

Answer: **25 to 29**

Question 8

median position 14	M1
cumulative frequency	M1
65 to 69 cao	A1

Answer: **65 to 69**

Question 9

uses midpoints of the classes	M1
multiplies midpoints by frequencies	M1
total fx = 1567 divided by 26	M1
60.3 cao	A1

Answer: **60.3**

Question 10

60 to 69 cao	B1

Answer: **60 to 69**

Question 11

tally or count of at least one class	M1
two frequencies correct	A1
10 to 14: 6, 15 to 19: 6, 20 to 24: 7 cao	A1

Answer: **10 to 14: 6, 15 to 19: 6, 20 to 24: 7**

Question 12

20 to 24 cao	B1

Answer: **20 to 24**

Question 13

tally or count of at least one class	M1
two frequencies correct	A1
10 to 19: 5, 20 to 29: 8, 30 to 39: 3 cao	A1

Answer: **10 to 19: 5, 20 to 29: 8, 30 to 39: 3**

Question 14

uses midpoints of the classes	M1
multiplies midpoints by frequencies	M1
total fx = 1435 divided by 50	M1
28.7 cao	A1

Answer: **28.7**

Question 15

tally or count of at least one class	M1
two frequencies correct	A1
20 to 24: 3, 25 to 29: 6, 30 to 34: 3 cao	A1

Answer: **20 to 24: 3, 25 to 29: 6, 30 to 34: 3**

Question 16

total 37	B1
mode 1	B1

Answer: **total 37, mode 1**

Question 17

tally or count of at least one class	M1
two frequencies correct	A1
10 to 14: 9, 15 to 19: 4, 20 to 24: 1 cao	A1

Answer: **10 to 14: 9, 15 to 19: 4, 20 to 24: 1**

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