3.13 Combined Mean: 1-hour Pack

EDEXCEL 1ST0 · Calculator allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 There are 24 boys and 28 girls in a group. The mean score in a reaction game for the boys is 69. The mean score in a reaction game for the girls is 54. Work out the mean for all 52 people. Give your answer to 1 decimal place.

(Total for Question 1 is 3 marks)

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2 The mean of 5 lengths of a runner's jumps in centimetres is 52. A new value is added and the mean of all 6 values is now 53. Work out the value that was added.

(Total for Question 2 is 3 marks)

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3 There are 13 members and 17 guests in a group. The mean mark in a test for the members is 52. The mean mark in a test for the guests is 43. Work out the mean for all 30 people.

(Total for Question 3 is 3 marks)

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4 The mean of the number of books borrowed from a library by 4 readers in a month is 9. The first 3 values are 7, 8, 8. Work out the missing value.

(Total for Question 4 is 3 marks)

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5 A shop sells three products. The table shows the quantity sold and the price per unit, in pounds.

Product	Quantity sold	Price per unit (pounds)
apples	11 kg	1.56
rice	12 kg	1.78
milk	11 litres	2.90

Work out the mean price per unit sold, weighting each price by the quantity. Give your answer to 2 decimal places.

(Total for Question 5 is 3 marks)

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6 The mean of the waiting times, in minutes, of 4 patients at a clinic is 32. The first 3 values are 36, 42, 47. Work out the missing value.

(Total for Question 6 is 3 marks)

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7 There are 9 members and 29 guests in a group. The mean time, in minutes, to finish a puzzle for the members is 75. The mean time, in minutes, to finish a puzzle for the guests is 68. Work out the mean for all 38 people. Give your answer to 1 decimal place.

(Total for Question 7 is 3 marks)

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8 Kofi's final mark is a weighted mean of 2 components.

Component	Weight	Mark
the practical test	50%	79
homework	50%	95

Work out the final mark.

(Total for Question 8 is 3 marks)

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9 There are 18 boys and 30 girls in a group. The mean mark in a test for the boys is 42. The mean mark in a test for the girls is 65. Work out the mean for all 48 people. Give your answer to 1 decimal place.

(Total for Question 9 is 3 marks)

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10 The mean of 5 lengths of a runner's jumps in centimetres is 60. A new value is added and the mean of all 6 values is now 61. Work out the value that was added.

(Total for Question 10 is 3 marks)

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11 There are 27 members and 25 guests in a group. The mean score in a reaction game for the members is 63. The mean score in a reaction game for the guests is 78. Work out the mean for all 52 people. Give your answer to 1 decimal place.

(Total for Question 11 is 3 marks)

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12 Five whole numbers are written in order: 5, 10, 15, y, 27. The mean of the five numbers is 15. Work out the value of y.

(Total for Question 12 is 3 marks)

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13 Hamza's final mark is a weighted mean of 2 components.

Component	Weight	Mark
the project	50%	84
coursework	50%	44

Work out the final mark.

(Total for Question 13 is 3 marks)

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14 The mean of 4 test scores is 42. A new value is added and the mean of all 5 values is now 40. Work out the value that was added.

(Total for Question 14 is 3 marks)

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15 A shop sells three products. The table shows the quantity sold and the price per unit, in pounds.

Product	Quantity sold	Price per unit (pounds)
rice	2 kg	1.25
flour	2 kg	1.52
bananas	2 kg	1.17

Work out the mean price per unit sold, weighting each price by the quantity. Give your answer to 2 decimal places.

(Total for Question 15 is 3 marks)

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16 There are 12 morning shoppers and 28 afternoon shoppers in a group. The mean score in a reaction game for the morning shoppers is 72. The mean score in a reaction game for the afternoon shoppers is 62. Work out the mean for all 40 people.

(Total for Question 16 is 3 marks)

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17 Femi's final mark is a weighted mean of 2 components.

Component	Weight	Mark
coursework	30%	39
the practical test	70%	80

Work out the final mark.

(Total for Question 17 is 3 marks)

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18 There are 28 Year 10 pupils and 17 Year 11 pupils in a group. The mean mark in a test for the Year 10 pupils is 79. The mean mark in a test for the Year 11 pupils is 40. Work out the mean for all 45 people. Give your answer to 1 decimal place.

(Total for Question 18 is 3 marks)

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19 Three classes sit the same maths test. Class X: 20 pupils, mean score 58. Class Y: 25 pupils, mean score 66. Class Z: 15 pupils, mean score 70.

(a) Work out the total score for all three classes combined.

(b) Work out the combined mean score for all 60 pupils.

(Total for Question 19 is 3 marks)

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Mark scheme · 3.13 Combined Mean: 1-hour Pack

Question 1

total for the boys = 24 x 69 = 1656 or total for the girls = 28 x 54 = 1512	M1
sum of the two totals (3168) divided by 52	M1
60.9 cao	A1

Answer: 60.9

Question 2

original total = 5 x 52 = 260	M1
new total = 6 x 53 = 318	M1
58 cao	A1

Answer: 58

Question 3

total for the members = 13 x 52 = 676 or total for the guests = 17 x 43 = 731	M1
sum of the two totals (1407) divided by 30	M1
46.9 cao	A1

Answer: 46.9

Question 4

total of all 4 values = 4 x 9 = 36	M1
subtract the sum of the known values (23)	M1
13 cao	A1

Answer: 13

Question 5

each price multiplied by its quantity	M1
total cost divided by total quantity (34)	M1
2.07 cao	A1

Answer: 2.07

Question 6

total of all 4 values = 4 x 32 = 128	M1
subtract the sum of the known values (125)	M1
3 cao	A1

Answer: 3

Question 7

total for the members = 9 x 75 = 675 or total for the guests = 29 x 68 = 1972	M1
sum of the two totals (2647) divided by 38	M1
69.7 cao	A1

Answer: 69.7

Question 8

each mark multiplied by its weight	M1
weighted marks summed and divided by the total weight (or weights as fractions of 1)	M1
87 cao	A1

Answer: 87

Question 9

total for the boys = 18 x 42 = 756 or total for the girls = 30 x 65 = 1950	M1
sum of the two totals (2706) divided by 48	M1
56.4 cao	A1

Answer: 56.4

Question 10

original total = 5 x 60 = 300	M1
new total = 6 x 61 = 366	M1
66 cao	A1

Answer: 66

Question 11

total for the members = 27 x 63 = 1701 or total for the guests = 25 x 78 = 1950	M1
sum of the two totals (3651) divided by 52	M1
70.2 cao	A1

Answer: 70.2

Question 12

sum of the five numbers = 5 x 15 = 75	M1
y = 75 - (5 + 10 + 15 + 27)	M1
18 cao	A1

Answer: 18

Question 13

each mark multiplied by its weight	M1
weighted marks summed and divided by the total weight (or weights as fractions of 1)	M1
64 cao	A1

Answer: 64

Question 14

original total = 4 x 42 = 168	M1
new total = 5 x 40 = 200	M1
32 cao	A1

Answer: 32

Question 15

each price multiplied by its quantity	M1
total cost divided by total quantity (6)	M1
1.31 cao	A1

Answer: 1.31

Question 16

total for the morning shoppers = 12 x 72 = 864 or total for the afternoon shoppers = 28 x 62 = 1736	M1
sum of the two totals (2600) divided by 40	M1
65 cao	A1

Answer: 65

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Question 17

each mark multiplied by its weight	**M1**
weighted marks summed and divided by the total weight (or weights as fractions of 1)	**M1**
67.7 cao	**A1**

Answer: 67.7

Question 18

total for the Year 10 pupils = 28 x 79 = 2212 or total for the Year 11 pupils = 17 x 40 = 680	**M1**
sum of the two totals (2892) divided by 45	**M1**
64.3 cao	**A1**

Answer: 64.3

Question 19

correct method, (20x58)+(25x66)+(15x70)	**M1**
3860 cao	**A1**
64.33 (2 dp) or 3860/60, correctly following through	**B1**

Answer: (a) 3860. (b) 64.33 (2 dp)

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