Statistics: Averages, Spread and Diagrams

Statistics and probability · 6 questions · step-by-step answers at the end

Name: Date: Score: / 6

USEFUL EQUATIONS

mean = $\Sigma fx/\Sigma f$ IQR = UQ − LQ frequency density = frequency ÷ class width

range = largest − smallest

Questions

Show your working in the space under each question.

1. EASY Find the mean of 4, 7, 9, 12, 13.

2. EASY Find the median and range of 11, 3, 8, 15, 6.

3. MEDIUM The mean of five numbers is 12. Four of them are 10, 9, 15 and 14. Find the fifth.

4. MEDIUM Scores 1, 2, 3, 4 have frequencies 3, 5, 8, 4. Find the mean score.

5. HARD In a histogram the class 20–50 has frequency 18, and the class 50–60 has frequency density 2.4. Find the frequency density of the first class and the frequency of the second.

6. HARD Class A has 12 students with mean mark 60. Class B has 18 students with mean mark 70. Find the mean for all 30.

Step-by-step answers

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1. Total $45 \div 5 = \mathbf{9}$.
2. In order: 3, 6, 8, 11, 15. Median **8**, range **12**.
3. Total must be 60. $60 - 48 = \mathbf{12}$.
4. $\Sigma fx = 3 + 10 + 24 + 16 = 53$. $\Sigma f = 20$. Mean = **2.65**.
5. $18 \div 30 = \mathbf{0.6}$. $2.4 \times 10 = \mathbf{24}$.
6. Totals: 720 and 1260. $(720 + 1260) \div 30 = \mathbf{66}$ (not 65, because the classes are different sizes).