

GCSE Maths: Comparing distributions (Foundation): worksheet

GCSE Maths - Statistics - Foundation - Lesson 24.11

Name: _____

Date: _____

Score: _____

12 questions. Write your answers in the spaces. Answers and step-by-step help are free at websink.site/gcse/maths/ch24-statistics/foundation/comparing-distributions/

Exercise 24K Comparing distributions Non-calculator

1 Compare the two sets of data using the mean and the range. Write your answer in context.

(a) Scores of Amy: 7, 9, 6, 8, 10 and of Ben: 4, 10, 5, 9, 7 in five tests.

Answer: _____

(b) Heights in cm of six girls: 150, 154, 148, 152, 156, 150 and six boys: 145, 160, 152, 148, 158, 157.

Answer: _____

(c) Waiting times in minutes at two clinics, A: 12, 15, 9, 14, 10 and B: 20, 8, 25, 6, 11.

Answer: _____

2 Two players scored goals in seven matches. Player X: 1, 0, 3, 2, 1, 0, 2. Player Y: 0, 5, 0, 0, 1, 6, 0. Compare the goals scored using the mean and the range.

Answer: _____

3 The ages of the people in two shops are shown.

Shop 1: 20, 22, 21, 23, 22, 65

Shop 2: 30, 32, 31, 33, 30, 34

Compare the ages using the **median** and the range. Explain why the median is better than the mean for Shop 1.

Answer: _____

4 The frequency tables show the number of goals scored in 20 matches by two teams.

Team P

Goals	0	1	2	3	4
Matches	4	7	6	2	1

Team Q

Goals	0	1	2	3	4
Matches	1	3	8	6	2

Which team scores more goals on average? Compare the means and give the range for each team.

(a) Mean for team P

Answer: _____

(b) Mean for team Q

Answer: _____

(c) Range for team P

Answer:

(d) Range for team Q

Answer:

(e) Comparison

Answer:

- 5 Hannah says: "Class A has a mean mark of 64 and class B has a mean mark of 61, so everyone in class A did better than everyone in class B." Explain why she is wrong.

Answer:

- 6 Complete the comparison. "The mean for team A is 12 and the mean for team B is 15. The range for A is 5 and the range for B is 14." Write two sentences comparing the teams.

Answer:

- 7 Two archers shoot seven arrows each. Their scores out of 10 are: Archer 1: 6, 7, 7, 8, 8, 8, 9. Archer 2: 3, 6, 8, 8, 9, 10, 10. A coach must choose one archer for a team who needs consistent scores. Which archer should be chosen? Use averages and ranges to justify your answer.

Answer:

- 8 Sam says: "Class X has a range of 35 and class Y has a range of 20, so class X must have the higher mean." Is he right? Explain.

Answer:

- 9 The numbers of points scored by two players in five games are: Player A: 4, 6, 5, 7, 8. Player B: 3, 9, 5, 4, 10. Compare the points using the median and the range.

Answer:

- 10 The battery lives, in hours, of five phones of each type are: Phone A: 14, 15, 13, 14, 16. Phone B: 10, 18, 12, 19, 16. A customer wants a phone with a reliable battery life. Which should the customer choose? Use the mean and the range.

Answer:

- 11 Team X has a mean of 30 points and a range of 6. Team Y has a mean of 24 points and a range of 10. Write two sentences to compare the teams.

Answer:

- 12 Write down two sets of five numbers, P and Q, so that P has the higher mean but the smaller range. Show that your sets work.

Answer: