

Name:

Exam Style Questions

Comparing Distributions
ANSWERS



Equipment needed: Ruler, pencil and pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

www.corbettmaths.com/contents

Video 57c



Answers and Video Solutions



1. Here is some data about the visitors to a golf club.



Some of the visitors are members of the golf club and some are non-members.

	Mean age	Range of ages
Member	50.7	81
Non-members	34.1	82

Compare the data for members and non-members.
Make two comparisons.

Comparison 1

The average (mean) age of the members is greater than the non-members, as their mean age is 50.7, compared to 34.1 for the non-members.

Comparison 2

The spread of the ages is similar for both the members and non-members, as the ranges are very close, 81 and 82.

(2)

2. Miss Jackson gives her class a test.



Here is some data about the number of hours spent revising and their test result.

	Mean result	Range of results
less than 10 hours revision	48.8	57
10 or more hours revision	63.4	31

Compare the data for members and non-members.
Make two comparisons.

Comparison 1

The students who revised for 10 or more hours performed better on average than the students who revised for less than 10 hours, as their mean result was 63.4 compared for 48.8

Comparison 2

The results for the students who revised less than 10 hours were more spread out, as their range was 57, compared to 31 for the students who revised for 10 or more hours.

(2)

3. Here is some data about the time taken for three restaurants to deliver meals to their customers one evening.



	Mean (mins)	Range (mins)
Burger World	25.4	7.8
Chips'R'us	27.1	7.2
Pizza Time	48.1	33.5

- (a) Compare the mean delivery times.

Pizza Time were much slower, on average, to deliver than Burger World and Chips'R'us, as their mean delivery time was 48.1 minutes, compared to 25.4 and 27.1 minutes.

(1)

- (b) Compare the range of the delivery times.

The spread of the delivery times for Pizza Time was much greater than Burger World and Chips'R'us, as their range of 33.5 minutes is greater than other ranges, 7.8 and 7.2

(1)

4. A talent competition is held for performers.
Some of the performers are singers and the rest are dancers.



Each performer is awarded a score out of 10.

The table shows data about the scores.

	Percentage	Mean score	Range of scores
Singer	68%	8.1	1.5
Dancer	32%	6.2	3.2

- (a) Compare the proportion of performers that are singers and that are dancers.

The majority of the performers were singers, as 68% were singers and only 32% were dancers.

(1)

- (b) Compare the average scores.

On average, the singers scored better than the dancers, as the mean score for the singers was 8.1, compared to the mean score of 6.2 for the dancers.

(1)

- (c) Compare the spread of the scores.

The scores for the dancers were more spread out, as their range (3.2) is more than double the range for the singers (1.5).

(1)

5.



A company has produced two television advertisements.

The company surveys a large number of people about their preferred advertisement.

Here is their findings.

	Percentage	Mean age	Range of ages
Advert A	19%	58.4	41
Advert B	81%	26.1	25

Compare the data for the people who preferred Advert A with the data for the people who preferred Advert B.

Make three comparisons.

Comparison 1

The majority of the people preferred Advert B (81%) compared to Advert A (19%).

Comparison 2

The ages of the people who preferred Advert A (mean of 58.4) were much higher than those who preferred Advert B (mean of 26.1).

Comparison 3

The ages of the people who preferred Advert A (range of 41) are more spread out than Advert B (range of 25).

(3)