

Sample Showdown

Use random samples to compare populations.

GRADE 7 • TEKS 7.12.C

7.12.C "compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations."

NAME _____

DATE _____

COMPARE THE MEANS

Find the mean of each random sample by dividing the total by the number of values. Compare the means to make a likely claim about the two populations, not a certain claim.

WORKED EXAMPLE

Random samples show A: 21, 23, 25 and B: 14, 16, 18. Compare the populations.

1. A total: $21 + 23 + 25 = 69$.
2. A mean: $69 / 3 = 23$.
3. B mean: $(14 + 16 + 18) / 3 = 16$.
4. $23 - 16 = 7$.

Answer: Population A likely has an average about 7 greater than population B.

PRACTICE 5 problems

- 1** Random samples, A: 6, 8, 10, 12; B: 4, 6, 8, 10. Find both means and compare.

ANSWER _____

- 2** Random samples, A: 15, 17, 19; B: 11, 13, 15. Find both means and compare.

ANSWER _____

- 3** Random samples, A: 30, 32, 34; B: 24, 26, 28. Find both means and compare.

ANSWER _____

- 4** Random samples, A: 7, 9, 11, 13; B: 9, 9, 9, 9. Find both means and compare.

ANSWER _____

- 5** A random sample from population A has a mean of 27. A random sample from population B has a mean of 29. Write a comparison.

ANSWER _____

APPLY IT Show your work

- 1** Two gaming clubs take random samples of members' weekly practice hours. Pixel Club: 5, 7, 9, 11. Quest Club: 3, 5, 7, 9. Which club likely practices more each week?

WORK SPACE

ANSWER _____

- 2** Random samples show songs added to playlists last week. Room A: 26, 28, 30. Room B: 33, 35, 37. Compare the rooms.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Random samples show pages read in one week. Group A: 10, 12, 14, 16. Group B: 8, 10, 14, 20. Do the samples support a difference in the populations' average pages read? Explain.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Random samples, A: 6, 8, 10, 12; B: 4, 6, 8, 10. Find both means and compare.	A mean = 9; B mean = 7. A is likely about 2 higher.
2	Random samples, A: 15, 17, 19; B: 11, 13, 15. Find both means and compare.	A mean = 17; B mean = 13. A is likely about 4 higher.
3	Random samples, A: 30, 32, 34; B: 24, 26, 28. Find both means and compare.	A mean = 32; B mean = 26. A is likely about 6 higher.
4	Random samples, A: 7, 9, 11, 13; B: 9, 9, 9, 9. Find both means and compare.	A mean = 10; B mean = 9. A is likely about 1 higher.
5	A random sample from population A has a mean of 27. A random sample from population B has a mean of 29. Write a comparison.	Population B likely has an average about 2 higher than population A.

PART 2 • APPLY IT

- Pixel Club likely practices about 2 more hours each week.** Pixel Club's mean is 8 hours, and Quest Club's mean is 6 hours. The sample suggests Pixel Club's population mean is about 2 hours greater.
- Room B likely adds about 7 more songs per student.** Room A's mean is 28 songs, and Room B's mean is 35 songs. The sample suggests Room B's population mean is about 7 songs greater.

CHALLENGE

No. Both sample means are 13, so the samples do not support a difference in the populations' average pages read.

Accept equivalent mean calculations and comparisons that use likely, about, or approximately. Do not accept claims that the sample proves a population difference.