

Grade 7 - Comparing Two Populations - Test

Common Core 7.SP.B.3, 7.SP.B.4 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

This 45-minute test checks comparing two data distributions with dot plots and box plots using mean, median, mean absolute deviation, variability, and overlap (Common Core 7.SP.B.3-4). It has 9 questions worth 20 points in all. Show your work, because most questions give partial credit for correct steps.

About this test

- Grade: Grade 7
- Chapter: Comparing Two Populations
- Standards: 7.SP.B.3, 7.SP.B.4
- Time: 45 minutes
- Total: 20 points

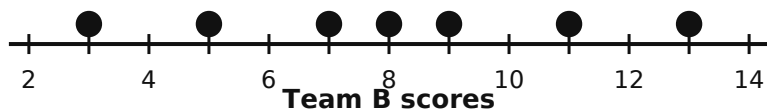
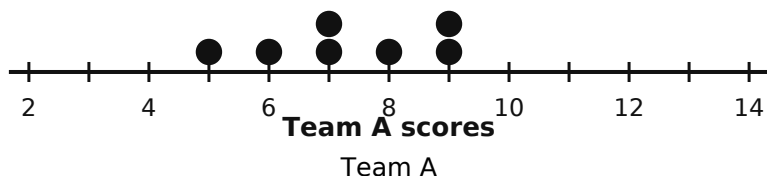
Question 1 - Mean and median [2 pts]

Find the mean and median of 6, 8, 9, 9, 10, 12.

Question 2 - MAD [2 pts]

Find the MAD of 2, 4, 6, 8, 10.

Question 3 - Compare dot plots [2 pts]

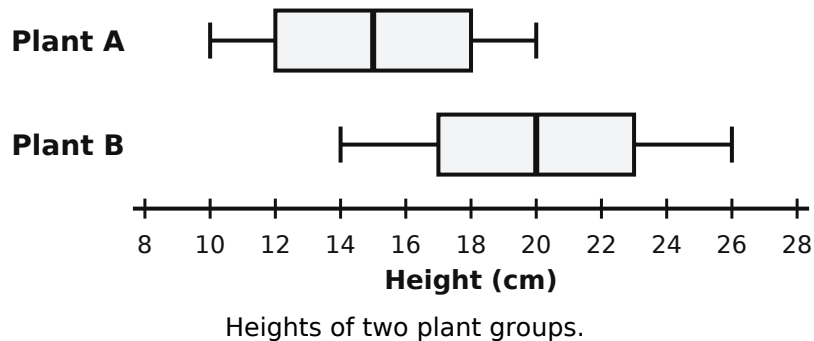


The dot plots show scores for two teams. Without computing, which team has greater variability? Find the range of each team.

Question 4 - Quartiles [2 pts]

Find Q1, Q3, and the IQR of 20, 22, 25, 28, 30, 31, 35, 40.

Question 5 - Compare box plots [2 pts]



Compare the medians and the IQRs of the two groups. Which group is taller overall?

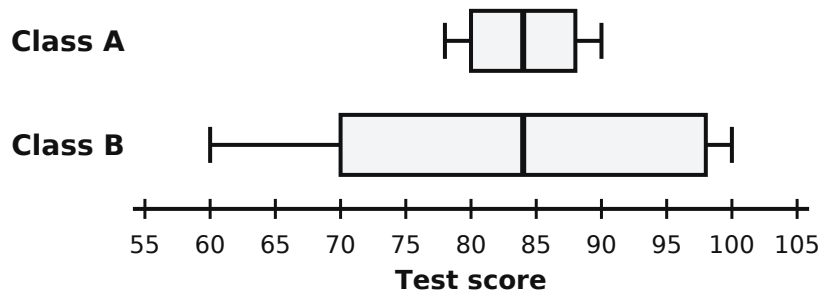
Question 6 - Difference in MADs [2 pts]

Group 1 has a mean of 70 and a MAD of 5. Group 2 has a mean of 85 and a MAD of 5. Express the difference of the means as a multiple of the MAD, and explain what it tells you.

Question 7 - Informal inference [2 pts]

A random sample of 25 students from School A has a median of 18 minutes to get to school, and a random sample of 25 from School B has a median of 12 minutes. Both IQRs are about 6 minutes. What can you conclude, and what additional step makes the conclusion stronger?

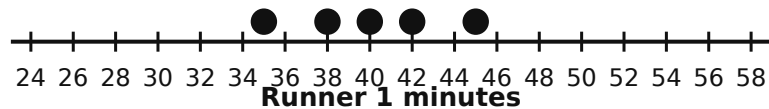
Question 8 - Two classes [3 pts]



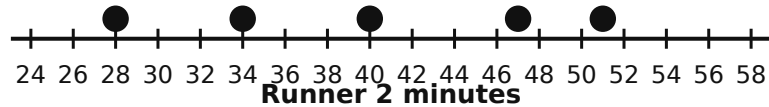
Test scores for two classes.

- Find the median of each class. (1 point)
- Find the IQR of each class. (1 point)
- Which class has more consistent scores? Use the IQRs to explain. (1 point)

Question 9 - Two runners [3 pts]



Runner 1



Runner 2

- Find the mean of each runner's five times. (1 point)
- Find the MAD of each runner. (1 point)
- Which runner is more consistent? Explain. (1 point)