Name_____ Date_____ Period_____

LESSON 2-5 · SESSION 2 · PRACTICE · FORM B

Comparing Variability

Learning target – I can compare the variability of two data sets using range and IQR. · 6.SP.B.5c

REMEMBER

- **More consistent** = less spread out = smaller range or smaller IQR.
- Compare the **same** measure for both groups. Equal ranges can hide different IQRs.
- With one far-out value, trust the **IQR** more than the range.

WORKED EXAMPLE

Class R: range 18, IQR 12. Class S: range 35, IQR 25.

Step 1 Ranges: 18 < 35.

Step 2 IQRs: 12 < 25.

Step 3 Both measures are smaller for R.

Answer **Class R is more consistent**

WORDS **consistent** *(constante)* · **range** *(rango)* · **IQR** *(rango intercuartil)*

PRACTICE

show your work · label units

1. Two Teams. Team J scores: 64, 78, 71, 83, 67, 80, 74. Team K scores: 55, 92, 70, 88, 60, 81, 66. Complete the table.

Hint *Order each list on its own first.*

	Range	Q1	Q3	IQR
Team J				
Team K				

More consistent_____

2. Vending Machines. Machine 1 daily sales: 28, 45, 33, 52, 36, 48, 31. Machine 2: 38, 42, 44, 40, 47, 43, 49.

a. Range 1: ___ **b.** IQR 1: ___ **c.** Range 2: ___ **d.** IQR 2: ___

3. Aaliyah's Claim. Sets V and W both have a range of 50. V has Q1 = 20 and Q3 = 45; W has Q1 = 30 and Q3 = 36. Aaliyah says they vary the same amount.

Hint *Equal ranges only match the extremes.*

☐ Right ☐ Not right

IQRs_____

4. Mateo's Claim. Sets T and U both have an IQR of 10. T runs from 40 to 62; U runs from 12 to 95. Mateo says they are equally spread out.

Hint *Equal IQRs only match the middle halves.*

☐ Right ☐ Not right

Ranges_____

5. Choosing a Measure. A list of monthly phone bills has one bill far above all the others. Which measure of spread fits better, the range or the IQR? Explain.

_____

_____

6. Different Stories. Set M has range 36 and IQR 20. Set N has range 50 and IQR 5.

Hint *A range much bigger than the IQR points to an extreme value.*

a. Wider middle half: ___ **b.** Likely has one unusual value: ___

7. Tablet Batteries. Tablet 1 hours: 10, 15, 12, 19, 17, 21, 8. Tablet 2 hours: 13, 15, 14, 17, 12, 18, 16.

a. Range 1: ___ **b.** IQR 1: ___ **c.** Range 2: ___ **d.** IQR 2: ___

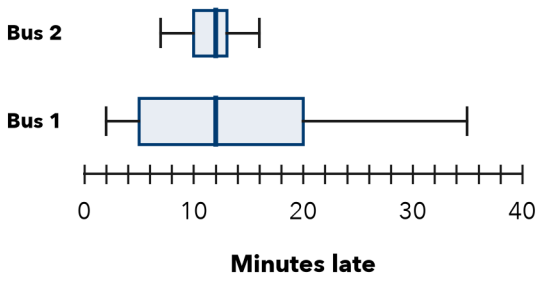
8. Choosing a Bus. The box plots show how many minutes late each bus was.

a. IQR of Bus 1: _____

b. IQR of Bus 2: _____

c. More predictable: _____

d. Bus 1 is sometimes almost on time. Why might you still choose Bus 2?



FIND THE ERROR

explain the mistake, then fix it

9. Nadia's Work. Nadia wrote: "Set A has the greater IQR, so Set A must have the greater range too." Explain the mistake.

_____

_____

TEST PRACTICE

choose the best answer

10. Set X has range 12; Set Y has range 30. Which is more spread out overall?

A Set X **B** Set Y **C** They are equal **D** Cannot tell

11. Two sets have the same median but different IQRs. They differ in –

A center **B** spread of the middle half

C number of values **D** median

SELF-CHECK CODE *find your answer · copy its letter into that problem's box · spell a math word*

21	15	4	3	17	Team K	9	Team J	7	33
Z	R	A	E	O	Q	P	C	M	X

#1	#2b	#2d	#7b	#7d	#8a	#8b

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #___