Pool the Groups

Does the link remain after the groups combine?

A1P.DSP.E.36.a "Aggregate data from several groups to find an overall association between two categorical variables."

NAME _____ DATE _____

LINKED

Add the counts and totals for each choice across the groups. The choices are linked to the result if their pooled fractions differ.

Choir: solo 3/4 approved, duet 1/4 approved. Band: solo 2/4 approved, duet 1/4 approved. Pooled: solo 5/8, duet 2/8.

UNLINKED

After you combine the groups, the two choices have equal fractions for the result.

Swim: dawn 1/4 present, dusk 2/4 present. Hike: dawn 3/4 present, dusk 2/4 present. Pooled: dawn 4/8, dusk 4/8.

1 SORT

6 items

In each group, fractions show early arrivals out of all bus or bike riders; circle LINKED or UNLINKED for each item, then explain your pooled fractions for two items in Part 2.

1. G1: bus 3/4, bike 1/4. G2: bus 2/4, bike 1/4. LINKED UNLINKED

2. G1: bus 1/2, bike 1/4. G2: bus 3/6, bike 2/4. LINKED UNLINKED

3. G1: bus 3/4, bike 1/4. G2: bus 1/4, bike 3/4. LINKED UNLINKED

4. G1: bus 1/4, bike 3/4. G2: bus 2/4, bike 4/4. LINKED UNLINKED

5. G1: bus 2/3, bike 1/3. G2: bus 1/6, bike 1/6. LINKED UNLINKED

6. G1: bus 1/2, bike 1/4. G2: bus 2/6, bike 2/4. LINKED UNLINKED

2 PROVE IT

Explain your thinking

Pick two items from Part 1. For each one, tell how you knew where it belonged.

ITEM # _____ **HOW I KNEW** _____

ITEM # _____ **HOW I KNEW** _____

3 MAKE YOUR OWN

One of each

Write two new two-group bus and bike examples using early/total fractions: one LINKED and one UNLINKED.

LINKED

UNLINKED

CHALLENGE

Make each group show different early rates for bus and bike, but make the pooled rates equal; show both pooled fractions.

ANSWER KEY # Pool the Groups

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	G1: bus 3/4, bike 1/4. G2: bus 2/4, bike 1/4.	**LINKED**	Pooled early rates are bus 5/8 and bike 2/8.
2	G1: bus 1/2, bike 1/4. G2: bus 3/6, bike 2/4.	**LINKED**	Pooled early rates are bus 4/8 and bike 3/8.
3	G1: bus 3/4, bike 1/4. G2: bus 1/4, bike 3/4.	**UNLINKED**	Both pooled early rates are 4/8.
4	G1: bus 1/4, bike 3/4. G2: bus 2/4, bike 4/4.	**LINKED**	Pooled early rates are bus 3/8 and bike 7/8.
5	G1: bus 2/3, bike 1/3. G2: bus 1/6, bike 1/6.	**LINKED**	Pooled early rates are bus 3/9 and bike 2/9.
6	G1: bus 1/2, bike 1/4. G2: bus 2/6, bike 2/4.	**UNLINKED**	Both pooled early rates are 3/8.

PART 2 · PROVE IT

Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 · MAKE YOUR OWN (SAMPLE ANSWERS)

- **LINKED**: G1: bus 4/4, bike 2/4. G2: bus 3/4, bike 2/4. Pooled: bus 7/8, bike 4/8.
- **UNLINKED**: G1: bus 2/4, bike 3/4. G2: bus 2/4, bike 1/4. Pooled: bus 4/8, bike 4/8.

Challenge: G1: bus 4/5, bike 1/5. G2: bus 1/5, bike 4/5. Pooled: bus 5/10, bike 5/10.

For Part 2, accept any two correctly pooled bus and bike fractions with an explanation that unequal fractions are linked and equal fractions are unlinked.