

Comparing Percentages in Tables  
Using Likely Grammar

ID	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8		
1	1	0	0	0	5	1	75	7	<b>Project requirements: PR3B</b>	1
2	0	0	1	0	1	1	58	6	Compare percentages using likely grammar	2
3	1	0	0	0	3	4	76	5	This demo uses the symbols (row #1, Q2, etc) .. and the practice questions	3
4	0	1	1	1	3	2	89	6		4
5	0	1	1	1	4	4	77	7		5
6	1	0	1	0	3	4	73	6	Q1-Q4 are binary with values of zero and one.	6
7	1	0	0	0	4	1	72	6	1 stands for YES; 0 stands for NO	7
8	1	0	0	0	4	1	88	6		8
9	1	0	0	0	4	3	90	6		9
10	1	0	0	0	3	4	39	5		10
11	1	0	0	0	5	2	40	4	<b>ASSIGNMENT:</b>	11
12	1	1	1	0	5	5	68	9	<b>1) Create specified pivot tables using demo data.</b>	12
13	1	1	1	1	5	1	71	8	Tables are indexed by Q1 (row) & Q2 (col)	13
14	1	0	1	0	3	1	98	4	Identify the common part rows/cols.	14
15	1	1	0	1	3	1	80	7	Select CP:R* or CP:C* for comparison.	15
16	0	0	1	0	4	1	93	6		16
17	0	0	1	0	3	1	41	6		17
18	1	0	1	1	4	2	42	8	<b>2) Form arithmetic comparisons of the CP numbers.</b>	18
19	1	0	0	0	3	3	39	6	Show all four kinds of comparisons	19
20	0	1	0	0	4	2	65	7		20
21	0	0	0	0	4	2	70	6	<b>3) Compare matching values using likely grammar.</b>	21
22	1	0	1	0	5	4	55	6	Can use "prevalent...among"	22
23	1	1	0	0	4	2	74	6	Do not show symbols such as row #1 or Q2.	23
24	1	0	1	0	5	2	36	4	Use both "likely to" and "likely among"	24
25	0	0	1	0	4	4	65	5		25
26	1	1	1	1	5	2	49	7		26
27	0	1	1	1	1	2	89	7	<b>Population: Students</b>	27
28	0	1	1	1	4	4	64	4	<b>Questions</b>	28
29	0	0	0	0	5	3	82	5	<b>Q1 Are you female?</b>	29
30	0	1	1	0	4	1	82	4	<b>Q2 Are you a senior?</b>	30
31	1	1	0	0	5	1	76	6	<b>Q3 Do you live on campus?</b>	31
32	1	0	0	0	3	1	92	4	<b>Q4 Are you a business major?</b>	32
33	0	1	1	1	3	4	75	7	<b>Q7 What is your height</b>	33
34	1	0	0	0	5	5	62	4	<b>Q8 Years in college?</b>	34
35	1	0	0	0	5	4	54	7		35
36	1	0	0	0	5	5	68	5		36
37	0	1	1	1	3	1	80	5	<b>Common-part comparison:</b>	37
38	1	1	0	1	5	5	60	6	Two percentages having a common-part	38
39	0	0	0	0	4	2	83	6	100% table: common row or column.	39
40	1	1	0	0	4	2	61	8	2-way table: common row or column	40
										41
										42
										43
									<b>Total cell:</b> the cell in the total column and total row	44
									<b>Margin cell:</b> a cell in a total column or total row.	45
									<b>Body cell:</b> a cell not in a total col and not in total row.	46
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**PR3B: COMPARE PERCENTAGES IN TABLES USING LIKELY GRAMMAR**

Construct a 100% row tables for Q2 by Q1. Compare common-part numbers using all 4 arithmetic comparisons. Using "% more", compare two common-part body percentages using "likely to" and "likely among" grammars.

Count of Q1	Q2		
Q1	0	1	Total
0	47%	53%	100%
1	68%	32%	100%
Total	60%	40%	100%

**CP: C2** Arithmetic comparisons of selected numbers  
 53% is 19 percentage points more than 32%  
 53% is 1.66 times as much as 32%  
 53% is 66% more than 32%  
 53% is 0.66 times more than 32%

**CP:C1 CP: C2**

**Likely-to** Symbolic: Row #1 subjects are 66% more likely to be in Col #2 than [are] Row #2 subjects.  
 Symbolic: Those saying No to Q1 are 66% more likely to say Yes to Q2 than those saying Yes to Q1.  
 Reality: Among students, men are 66% more likely to be seniors than [are] women

**Likely...among** Symbolic: Being in Col #2 is 66% more likely among Row #1 than [among] Row #2.  
 Symbolic: Saying Yes to Q2 is 66% more likely among No to Q1 than [among] Yes to Q1.  
 Reality: Being a senior is 66% more likely among males than [among] females

Construct a 100% column table for Q1 by Q2. Compare common-part numbers using all 4 arithmetic comparisons. Using "% more", compare two common-part body percentages using "likely to" and "likely among" grammars.

Count of Q1	Q2		
Q1	0	1	Total
0	29%	50%	38%
1	71%	50%	63%
Total	100%	100%	100%

**CP:R2** Arithmetic comparisons of selected numbers  
 71% is 21 percentage points more than 50%  
 71% is 1.42 times as much as 50%  
 71% is 42% more than 50%  
 71% is 0.42 times more than 50%

**CP:R1**  
**CP:R2**

**Likely-to** Symbolic: Col #1 subjects are 42% more likely to be in Row #2 than [are] Col #2 subjects.  
 Symbolic: Those saying No to Q2 are 42% more likely to say Yes to Q1 than those saying Yes to Q2.  
 Reality: Among students, non-seniors are 42% more likely to be female than [are] seniors.

**Likely...among** Symbolic: Being in row #2 is 42% more likely among Col #1 subjects than [among] Col #2 subjects.  
 Symbolic: Saying Yes to Q1 is 42% more likely among No to Q2 subjects than [among] Yes to Q2.  
 Reality: Women 42% more likely among non-seniors than [among] seniors

Construct a two way half table of Q3 indexed by Q1 and Q2  
 Using "% more", compare two common-part body percentages using "likely to" and "likely among" grammars.

Average of Q3	Q2		
Q1	0	1	Total
0	57%	88%	73%
1	29%	38%	32%
Total	38%	63%	48%

**CP:R1** Arithmetic comparisons of selected numbers  
 88% is 31 percentage points more than 57%  
 88% is 1.54 times as much as 57%  
 88% is 54% more than 57%  
 88% is 0.54 times more than 56%

**CP:R1**  
**CP:R2**

**CP:C1 CP: C2**

**Likely-to** Symbolic: Among Row #1 subjects, Col #2 are 54% more likely to be Q3=Yes than [are] Col #1.  
 S: Among No to Q1, Yes to Q2 are are 54% more likely to say Yes to Q3 than those saying No to Q2.  
 Reality: Among male students, seniors are 54% more likely to live on campus than [are] non-seniors.

**Likely...among** Symbolic: Among row #1, saying Yes to Q3 are 54% more likely among Col #2 than [among] Col #1.  
 S: Among Yes to Q1, saying Yes to Q3 is 54% more likely among No to Q1 than [among] Yes to Q1.  
 Reality: Among male students, living on campus is 54% more likely among sniors than non-seniors.