Excel Project - Truth Tables

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Excel Project – Truth Tables

You are working at UCLA and must create a spreadsheet to see which candidates will be eligible for three scholarships: the **Alumni Scholarship**, the **Excellence Scholarship**, and the **Bruin Scholarship**. See the back for the scholarship criteria.

$$\boxed{\frac{\quad}{20}}$$

Part 1: For each program, write out the statement in symbolic form and then create a truth table. **(10 points)**

Alumni Scholarship

p = ACT score at least 29
q = GP greater than 3.6

Grade
Part 1   Part 2

Symbolic Form: $p \wedge q$

p	q	
T	T	T
T	F	F
F	T	F
F	F	F

Excellence Scholarship

p = ACT score greater than 30
q = GP at least 3.8
r = Passed at least 3 AP tests

Grade
Part 1   Part 2

Symbolic Form: $(p \wedge q) \vee r$

p	q	r	
T	T	T	T
T	T	F	T
T	F	T	T
T	F	F	F
F	T	T	T
F	T	F	T
F	F	T	T
F	F	F	F

Bruin Scholarship

p = If they reside in California
q = Their parent's income less than $80,000
r = ACT score greater than 27

Grade
Part 1   Part 2

Symbolic Form: $p \wedge q \wedge r$

p	q	r	
T	T	T	T
T	T	F	F
T	F	T	F
T	F	F	F
F	T	T	F
F	T	F	F
F	F	T	F
F	F	F	F

Part 2: Create a spreadsheet using Excel. Just like we did in the NHS example, you must create a column that will show "True" or "False" to see if each person qualifies for any of the three programs. You will make a column titled "Alumni," "Excellence," and "Bruin" and then have the computer input "True" or "False" to determine whether each student qualifies for the scholarship. **(10 points)**

- Students are eligible for the **Alumni Scholarship** if their ACT score is at least 29 and their GPA is greater than 3.6.

- Students are eligible for the **Excellence Scholarship** if their ACT score is greater than 30 and their GPA is 3.8 or higher, or they passed at least 3 AP tests.

- Students are eligible for the **Bruin Scholarship** if they reside in California, their parent's income is less than $80,000, and their ACT score is greater than 27.

The following people and data must be added to the spreadsheet.

- Robert has a 34 ACT score, 3.9 GPA, and passed 4 AP tests. He lives in New Mexico and his parents' income is $120,000.
- Priya has a 28 ACT score, 3.6 GPA, and passed 2 AP tests. She lives in California and her parents' income is $70,000.
- Sheila has a 29 ACT score, 3.7 GPA, and passed 1 AP test. She lives in Wisconsin and her parents' income is $90,000.

income is $120,000.
- Priya has a 28 ACT score, 3.6 GPA, and passed 2 AP tests. She lives in California and her parents' income is $70,000.
- Sheila has a 29 ACT score, 3.7 GPA, and passed 1 AP test. She lives in Wisconsin and her parents' income is $90,000.
- Sandeep has a 31 ACT score, 3.5 GPA, and passed 3 AP tests. He lives in California and his parents' income is $75,000.
- Adam has a 28 ACT score, 3.2 GPA, and passed 1 AP test. He lives in California and his parents' income is $100,000.
- Beatrice has a 33 ACT score, 4.0 GPA, and passed 2 AP tests. She lives in Montana and her parents' income is $90,000.
- Talia has a 26 ACT score, 4.0 GPA, and passed 3 AP tests. She lives in California and her parents' income is $75,000.

Your Excel sheet must be formatted properly, which includes using the correct formulas and headings. Make it look nice!

Final Instructions:
- You may work with one other person.
- Only ONE person needs to submit the assignment.
- Submit it to the "Excel Project" assignment on Schoology.
- Include BOTH of your last names in the file name (example: "Montalbano_Messina_Excel Project.xlsx").
- Please note the due date on Schoology. Two points will be deducted for each day late.
- When you submit it to Schoology, your spreadsheet may not work in the "preview window," but don't worry – it works when I download it. Just ask if you want to verify!