edX   UTAustinX: UT.7.10x Foundations of Data Analysis - Part 1

Week 4: Bivariate Distributions (Categorical Data) > Problem Set > Question 2

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Question 2

A high school counselor wants to categorize students according to two variables: their gender (male or female) and their grade level (freshman, sophomore, junior or senior).

(1/1 point)
2a. To how many possible outcomes can students be assigned?

| 8 | ✔

| 8 |

You have used 1 of 1 submissions

An Economics professor kept a record of grades earned by the college students in his class, as shown below.

	A	B	C	D	F
Freshman	5	10	9	10	6
Sophomore	8	10	9	7	4
Junior	11	5	4	4	2
Senior	9	9	4	2	0

Notice that the marginal totals have not been filled in.

All numerical input answers below should be reported as proportions.

(1/1 point)
2b. What **proportion** of students in the class received a grade of **A**? *(Round to 2 decimal places.)*

| 0.26 |

✔ **Answer:** .26

0.26

You have used 1 of 1 submissions

(1/1 point)
2c. What **proportion** of the students were **upperclassmen** (juniors and seniors)? *(Round to 2 decimal places.)*

| 0.39 |

✔ **Answer:** .39

0.39

You have used 1 of 1 submissions

(1/1 point)
2d. What is the probability that a freshman received a failing grade of **F**? *(Round to 2 decimal places.)*

| 0.15 |

✔ **Answer:** .15

0.15

You have used 1 of 1 submissions

(1/1 point)
2e. What is the probability that a randomly selected student from the class would be a **sophomore** that received a grade of **B**? *(Round to 2 decimal places.)*

| 0.08 |

✔ **Answer:** .08

0.08

You have used 1 of 1 submissions

(1/1 point)
2f. What **proportion** of juniors passed the course with a grade of **D or better**? *(Round to 2 decimal places.)*

| 0.92 |

✔ **Answer:** 0.92

0.92

You have used 1 of 1 submissions

(1/1 point)

2g. What is the probability that a randomly selected student from this class would be a **senior**? *(Report to 2 decimal places.)*

| 0.19 | ✔ **Answer:** .19 |

0.19

You have used 1 of 1 submissions

(1/1 point)

2h. If a student received a grade of **D** in the class, what is the probability that the student was a **senior**? *(Round to 2 decimal places.)*

| 0.09 | ✔ **Answer:** .09 |

0.09

You have used 1 of 1 submissions

(1/1 point)

2i. Does the probability that a randomly selected student is a **senior** change if we know that the student received a grade of **D** in the course?

◉   Yes   ✔

◯   No

You have used 1 of 1 submissions