

Topic: Relative frequency tables

Question: Every student at a certain high school needs to choose exactly one fine arts elective. The following table shows the enrollment of electives for all students. About what percentage of Sophomores were enrolled in art?

	Art	Architecture	Music	Total
Freshman	40	25	55	120
Sophomore	52	12	71	135
Junior	56	45	54	155
Senior	30	60	20	110
Total	178	142	200	520

Answer choices:

- A 29 %
- B 39 %
- C 10 %
- D 26 %



Solution: B

To find the percentage of sophomores who were enrolled in art, we need to find the row relative frequency for the Sophomores,

	Art	Architecture	Music	Total
Sophomore	52	12	71	135

and look at the percentage who were enrolled in art.

	Art	Architecture	Music	Total
Sophomore	$52/135=39\%$	$12/135=9\%$	$71/135=53\%$	$135/135=100\%$

We can see from the row relative frequency that 39 % of the sophomore were enrolled in art.

	Art	Architecture	Music	Total
Sophomore	39%	9%	53%	100%



Topic: Relative frequency tables

Question: Every student at a certain high school needs to choose exactly one fine arts elective. The following frequency table shows the enrollment of electives for all students. Which type of relative frequency table would answer the question: “Of the students enrolled in architecture, what percentage of them are seniors?”

	Art	Architecture	Music	Total
Freshman	40	25	55	120
Sophomore	52	12	71	135
Junior	56	45	54	155
Senior	30	60	20	110
Total	178	142	200	520

Answer choices:

- A Column-relative frequency table
- B Row-relative frequency table
- C Total-relative frequency table
- D All of the above



Solution: A

Calculating the column-relative frequency for architecture would let us answer this question.

	Architecture
Freshman	25
Sophomore	12
Junior	45
Senior	60
Total	142

We get:

	Architecture
Freshman	$25/142=18\%$
Sophomore	$12/142=8\%$
Junior	$45/142=32\%$
Senior	$60/142=42\%$
Total	$142/142=100\%$

Which tells us that, of the students enrolled in architecture, 42 % of them are seniors.



Topic: Relative frequency tables

Question: Emily counted the shape and type of blocks that her little sister owns and organized the information into the frequency table below. Which question could you answer by looking at the row-relative frequency table for this data?

		Block Shape		
		Cube	Rectangular Prism	Total
Block Color	Red	5	9	14
	Blue	4	10	14
Total		9	19	28

Answer choices:

- A What percentage of the total blocks are red?
- B What percentage of the blocks are red cubes?
- C What percentage of the cubes are blue?
- D What percentage of the blue blocks are rectangular prisms?



Solution: D

To find the percentage of the blue blocks that are rectangular prisms, you want to find the number of rectangular prisms that are blue and the total number of blue blocks. This information is found in the row frequencies and the percentages would be found in the row-relative frequencies.

	Cube	Rectangular Prism	Total
Blue	4	10	14

You can see the percentage of blue blocks that are rectangular prisms in this row-relative frequency table.

	Cube	Rectangular Prism	Total
Blue	$4/14=29\%$	$10/14=71\%$	$14/14=100\%$

