Answer on Question #70839 – Math – Statistics and Probability

Suppose you are working for a company in the music business. They make stereos, musical instruments and produce CD's. They decide to do a survey on dance preferences by college students. Basically, they wanted to know about college students' interests and practices on dance music. A survey was administered to a random sample of 37 students and recorded in Table 1:

A – Ironic dance B – Pro dance C – Sway dance
D – Dad-dance E – Twerk dance

Table 1

Male Female Male Female Male

A A A A E
C E C C A
A A C B E
A C A D D
A A B A A
C D E B B
D A D D A
D A

Based on Table 1 in Question 1:

Question

a) Prepare a multiple frequency table for dance preferences of both genders. (2)

Answer. Instead of Table 1, during statistical analysis, it is convenient to use a table of absolute values of frequencies (tab. 2) or relative values of frequencies (tab. 3):

	A	B	C	D	E
Male	9	2	4	4	3
Female	7	2	2	3	1

Table 2. Absolute values of frequencies

	A	B	C	D	E
Male	0,41	0,09	0,18	0,18	0,14
Female	0,47	0,13	0,13	0,2	0,07

Table 3. Relative values of frequencies

Question

b) Using your frequency table, draw a multiple bar chart to represent the information. (4)

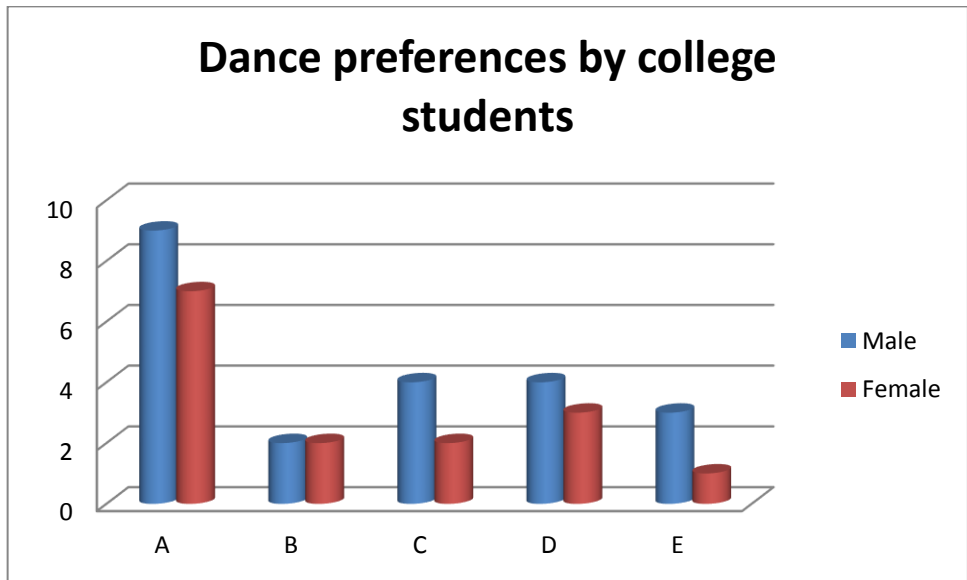*Answer.* Data visualization should be done using various diagrams, for example, fig. 1 – 3:

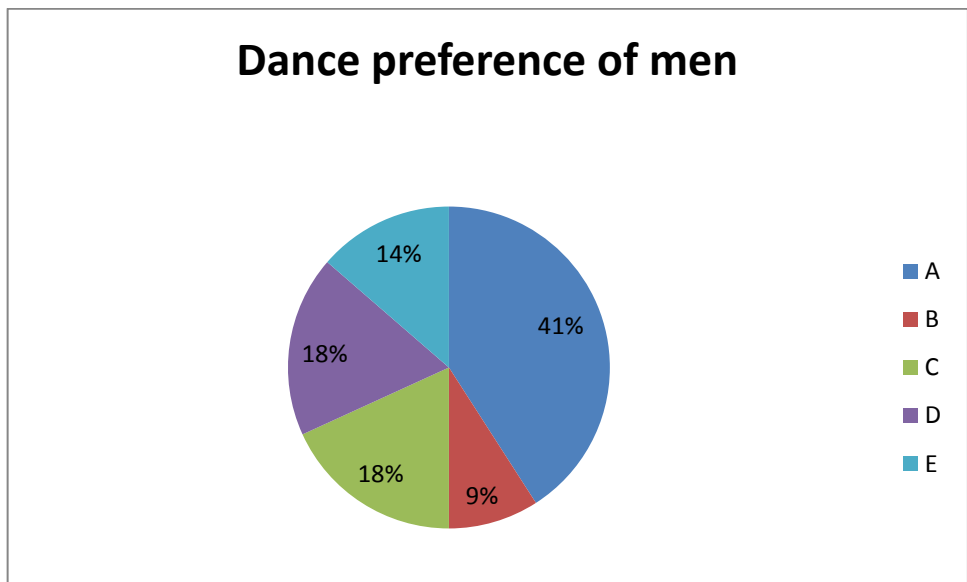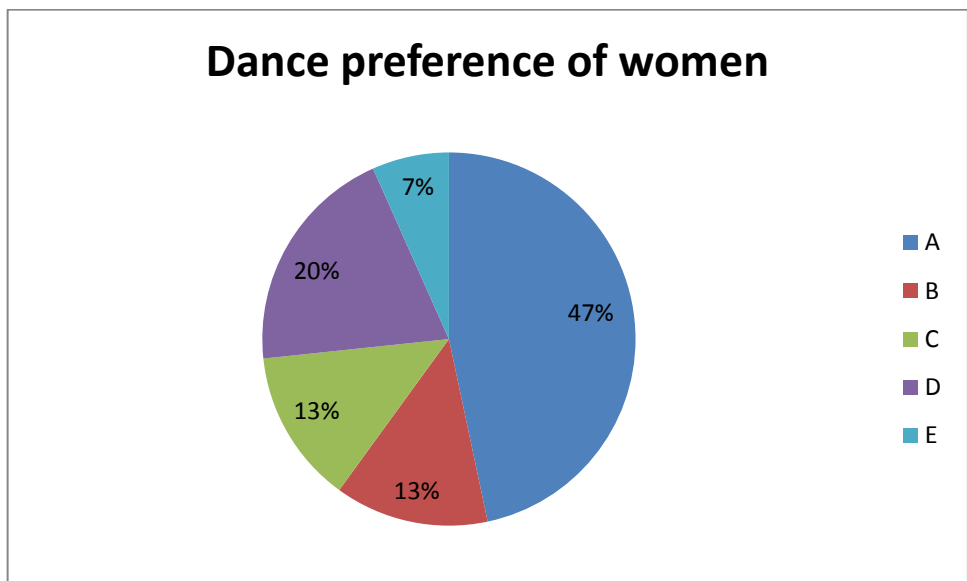Fig. 1. Histogram of dance preference

Fig. 2.

Fig. 3.

Question

c) Briefly discuss and compare the percentage of favorite and least favorite dance preferences of both genders. (4)

Answer. As we see from Figures 2 and 3, the most popular among men, as well as among women, is Ironic dance (41% and 47% respectively).

The least favorite dance among men is Pro dance, and among women it is Twerk dance