

Two-Way Tables

Every student at Abigail Douglas Middle School is enrolled in exactly one extracurricular activity. The school counselor recorded data on extracurricular activity and gender for all 254 eighth-grade students at the school.

The counselor's findings for the 254 eighth-grade students are the following:

- Of the 80 students enrolled in band, 42 are male.
- Of the 65 students enrolled in choir, 20 are male.
- Of the 88 students enrolled in sports, 30 are female.
- Of the 21 students enrolled in art, 9 are female.

1. Complete the table below.

		Extracurricular Activities				Total
		Band	Choir	Sports	Art	
Gender	Female					
	Male					
	Total					

2. Write a sentence explaining the meaning of the frequency 38 in this table.

Use the table provided above to calculate the following relative frequencies.

3. What proportion of students are male and enrolled in choir?
4. What proportion of students are enrolled in a musical extracurricular activity (i.e., band or choir)?
5. What proportion of male students are enrolled in sports?
6. What proportion of students enrolled in sports are male?

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1. Complete the table below.

		Extracurricular Activities				Total
		Band	Choir	Sports	Art	
Gender	Female	38	45	30	9	122
	Male	42	20	58	12	132
Total		80	65	88	21	254

2. Write a sentence explaining the meaning of the frequency 38 in this table.

The frequency of 38 represents the number of eighth-grade students who are enrolled in band and are female.

Use the table provided above to calculate the following relative frequencies.

3. What proportion of students are male and enrolled in choir?

$$\frac{20}{254} \approx 0.08$$

4. What proportion of students are enrolled in a musical extracurricular activity (i.e., band or choir)?

$$\frac{80 + 65}{254} \approx 0.57$$

5. What proportion of male students are enrolled in sports?

$$\frac{58}{132} \approx 0.44$$

6. What proportion of students enrolled in sports are male?

$$\frac{58}{88} \approx 0.66$$

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