

TWO-WAY FREQUENCY CHARTS

A TWO WAY FREQUENCY CHART IS....

- A CHART THAT HAS 2 CATEGORIES OF DATA
- THE CATEGORIES CAN BE ANYTHING
- THE CHART TELLS YOU INFORMATION ABOUT THE SURVEY

WHAT CAN A FREQUENCY CHART TELL YOU?

- TOTALS OF CATEGORIES
- YOU CAN USE IT TO FIND PROBABILITIES

Find the Marginal Frequencies in the chart provided

→ The marginal frequencies are: THE TOTALS FOR EACH AREA OF A CATEGORY

1) How many students were surveyed?

135

2) How many total males were asked?

78

3) How many total females were asked?

57

4) How many students took yearbook?

35

5) How many students who are in yearbook are female?

7

6) How many males take band?

12

7) How many students are in band? 33

School Club	Gender		Totals
	Male	Female	
Band	12	21	33
Chorus	15	17	32
Chess	16	3	19
Latin	7	9	16
Yearbook	28	7	35
Totals	78	57	135

PROBABILITIES IN FREQUENCY TABLES

HOW MANY OF THE THINGS THE QUESTION IS ASKING FOR
TOTAL OF ALL THINGS IN THE PROBLEM (DIVIDED BY)

Probability of an event =

- > probability is a fraction
- > Divide the two numbers to get a decimal
- > multiply the decimal by 100 to get your percent!

A percent can never be more than 100%.

NUMERATOR is always smaller than the denominator

- 8) What is the probability that a randomly selected student participated in chess?

$$\frac{19}{135} = .14 \times 100 = 14\%$$

- 9) What is the probability of randomly selecting a male yearbook student?

$$\frac{28}{135} = .21 \times 100 = 21\%$$

- 10) What is the probability that a student who was randomly selected was a female band student?

$$\frac{21}{135} = .16 \times 100 = 16\%$$

- 11) What is the probability that a randomly selected student was a male?

$$\frac{78}{135} = .58 \times 100 = 58\%$$

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CONDITIONAL PROBABILITIES

- THIS IS A PROBABILITY WHERE THE DENOMINATOR CHANGES

- YOU NO LONGER LOOK AT THE TOTAL total

o the question sets a condition which becomes the new denominator

number of things the question asks in the condition

Probability of an event =

$\frac{\text{TOTAL OF THE CONDITION}}{\text{TOTAL OF THE CONDITION}}$

- 12) Out of the females how many are in the band?

$$\frac{21}{57} = .37 \times 100 = 37\%$$

- 13) Out of the Chorus students how many are males?

$$\frac{15}{32} = .47 \times 100 = 47\%$$

- 14) Given that the student is a male what is the probability that they participate in Chess?

$$\frac{16}{78} = .21 \times 100 = 21\%$$

- 15) Given that the student is in Yearbook what is the probability that they are female?

$$\frac{7}{35} = .2 \times 100 = 20\%$$

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