

**1. Determine the information from the two way frequency table.**

The boys and girls of a class were surveyed about whether they liked to swim or ski. The two way table shows the results of the survey.

a) How many students in the class? 28b) How many girls in the class? 12c) How many students like to ski? 15d) How many boys like to swim? 6e) How many girls don't like to swim? 5f) What is the probability that a student likes to swim?  $\frac{13}{28}$ g) What is the probability that a boy was selected?  $\frac{16}{28} = \frac{4}{7}$ h) What is the probability that you select a girl that likes to swim?  $\frac{7}{28} = \frac{1}{4}$ i) Given that a boy was selected, what is the probability that he likes to ski?  $\frac{10}{16} = \frac{5}{8}$ j) Given that they like to swim, what is the probability that it is a girl?  $\frac{7}{13}$ 

	Swim	Ski	Total
Boys	6	10	16
Girls	7	5	12
Total	13	15	28

The class had been surveyed about who had been to Canada, Europe or both. The two way table shows the results of the survey.

k) How many people were surveyed? 34l) How many people had been to Canada? 25m) How many people had not been to Europe? 29n) How many people had not been to either? 7o) How many people had been to Canada & Europe? 3p) What is the probability that a student had been to Canada and Europe?  $\frac{3}{34}$ q) What is the probability that a student had been to Europe but not Canada?  $\frac{2}{34} = \frac{1}{17}$ r) What is the probability that a student had been to Canada?  $\frac{25}{34}$ s) Given that they had not travelled to Europe, what is the probability that they had been to Canada?  $\frac{22}{29}$ 

	Europe	Not Europe	Total
Canada	3	22	25
Not Been to Canada	2	7	9
Total	5	29	34

**2. Complete the two way frequency tables.**

a) Students were asked in Middle and High School which they liked more, Math or English. Complete the two way table from the given information. **13**

	Math	English	Total
Middle	25	18	43
High	19	12	31
Total	44	30	74

b) Girls and boys were asked about what their favorite color was of the four given. Complete the two way table from the given information.

	Red	Green	Blue	Yellow	Total
Male		3	10	1	27
Female	6	8	4	7	25
Total	19	11	14	8	52

### 3. Complete the two way tables.

In the class of 24 boys and 10 girls a survey was given about whether they liked Justin Bieber or Katie Perry. 20 boys liked Katie Perry and 9 of the girls liked Justin Bieber. Complete the two way table.

	Justin	Katy	Total
Boys	4	20	24
Girls	9	1	10
Total	13	21	34

### 4. Boys and girls were asked whether they liked meat or peanut butter sandwiches for lunch.

- a) Give a joint frequency value for the boys: 10,18  
 b) Give the marginal frequency value for meat: 29  
 c) How many students were surveyed? 58

	Meat	Peanutbutter
Boys	10	18
Girls	19	11

### 5. Complete the two way tables and determine the requested probability.

- a) A class of 35 students were asked if they were members of the chess club or math club. 16 were in the chess club, 10 were in both, 9 students weren't in either club.

$$P(\text{math club}) = \frac{20}{35} = \frac{4}{7}$$

	Math	No Math	Total
Chess	10	6	16
No Chess	10	9	19
Total	20	15	35

- b) 15 boys and 20 girls were surveyed about music preference between Top 40 and 80's music. 25 students picked Top 40, and 2 girls picked 80's music.

$$P(\text{Boy and Top 40's}) = \frac{7}{35} = \frac{1}{5}$$

	Top 40	80's	Total
Boys	7	8	15
Girls	18	2	20
Total	25	10	35

- c) 62 people were interviewed about whether they had an iPhone and iPad. 30 had an iPhone but not an iPad, 12 had neither, and 14 had both.

$$P(\text{iPad}) = \frac{20}{62} = \frac{10}{31}$$

	iPad	No iPad	Total
iPhone	14	30	44
No iPhone	6	12	18
Total	20	42	62