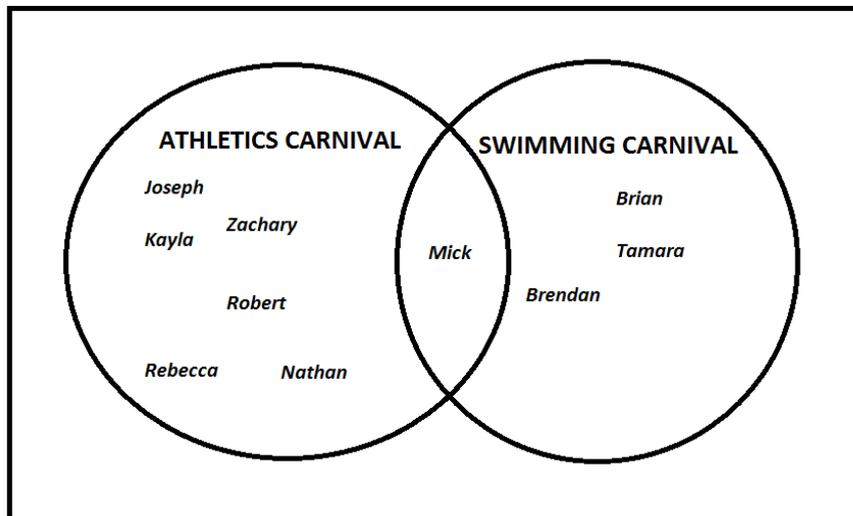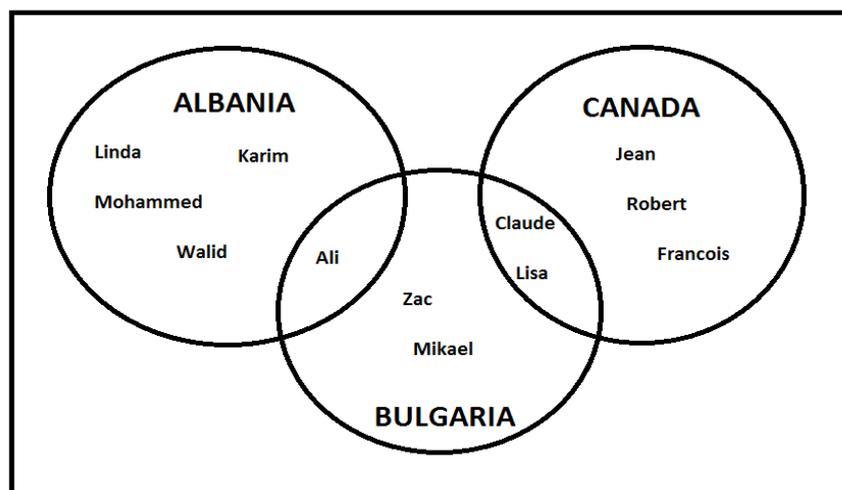# VENN DIAGRAMS
SKILLS QUESTIONS

Q1. The Venn diagram below shows the attendance of students at Sports Carnivals.

(a)Who attended the athletics carnival?
(b)Who attended the swimming carnival?
(c)Who attended both carnivals?
(d)What is the probability that a student attended the athletics carnival?
(e)What is the probability that a student attended both carnivals?

Q2. The diagram above shows the last country or countries visited by back-packers staying in a hostel.

- Set A includes the tourists who visited Albania.
  Elements of Set A = {Linda, Karim, Mohammed, Walid, Ali}
- The symbol for the union of sets is
  A ∪ B = {Linda, Karim, Mohammed, Walid, Ali, Zac, Mikael, Claude, Lisa}
- The symbol for the intersection of sets is
  A ∩ B = {Ali}
- If there are no elements in the set, it is called a null set and has the symbol ϕ

Q2. (a)What are the elements of Set B?
(b) Write the elements of Set C.
(c) Write the elements of Set B $\cup$ C.
(d) Write the elements of Set A$\cup$C.
(e) What are the elements of Set A$\cap$B?
(f) What is Set B$\cap$C?
(g) What is Set A$\cap$C?
(h) What is the probability of choosing a person who visited both Albania and Bulgaria?

Q3. Forty-five people had breakfast at a motel. Twenty-five had steak and 12 had eggs. Of these, 9 had both steak and eggs. How many people had neither steak nor eggs?

Q4. There are 11 men in a cricket team. Three are all-rounders (good batsmen and good bowlers). 2 are good bowlers only. The wicket keeper is neither a good batsman nor a good bowler. How many of the cricketers are good batsmen only?

Q5. A survey was carried out with 70 school children. It was found that 39 read novels and 28 read travel. Of these, 16 read both novels and travel. How many children did not read any books?

Q6. A number of people were travelling in a tourist bus in Switzerland. It was found that 16 spoke English, 19 spoke French, 7 both English and French, and 5 spoke German only. How many people were in the bus?

Q7. Two newspapers, Morning Herald and Evening News, are read in Ferndale which has a population of 2240. 1220 people read the Morning Herald and 910 read the Evening News. If 270 read both papers, how many read neither?

Q8. In a school there are 100 girls. Of these, 50 play football, 33 play basketball, and 16 play tennis. 7 play both football and tennis, 18 play both football and basketball, and no child plays both basketball and tennis. How many girls play none of the sports?

ANSWERS

Q1. (a) Joseph, Kayla, Rebecca, Zachary, Robert, Nathan, Mick

(b) Mick, Brian, Tamara, Brendan

(c) Joseph, Kayla, Rebecca, Zachary, Robert, Nathan, Mick, Brian, Tamara, Brendan

(d) 7/10

(e) 1/10

Q2. (a) Ali, Zac, Mikael, Claude, Lisa

(b) Claude, Lisa, Jean, Robert, Francois

(c) Ali, Zac, Mikael, Claude, Lisa, Jean, Robert, Francois

(d) Linda, Mohammed, Walid, Karim, Ali, Claude, Lisa, Jean, Robert, Francois

(e) Ali

(f) Claude, Lisa

(g) There are no elements. It is a null set ϕ .

(h) 1/12

Q3. 17

Q4. 5

Q5. 19

Q6. 33

Q7. 380

Q8. 8