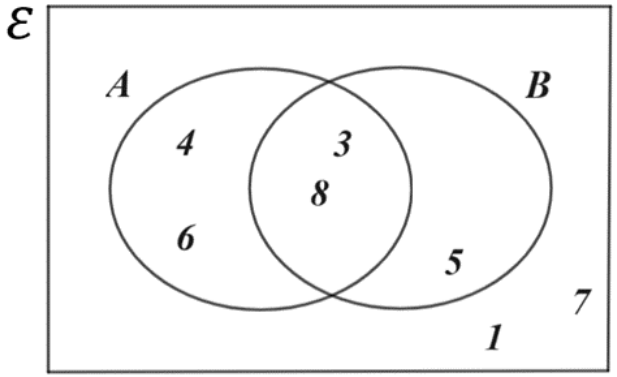
Set Notation & Venn Diagrams – www.m4ths.com

Question 1

The Venn Diagram below represents sets A and B.



(a) Fill out the sets below with the elements from each set:

$\varepsilon = \{$ $\}$

$A = \{$ $\}$

$B = \{$ $\}$

$A \cup B = \{$ $\}$

$A \cap B = \{$ $\}$

$A' = \{$ $\}$

$B' = \{$ $\}$

(b) One number is chosen at random from the Venn Diagram, find:

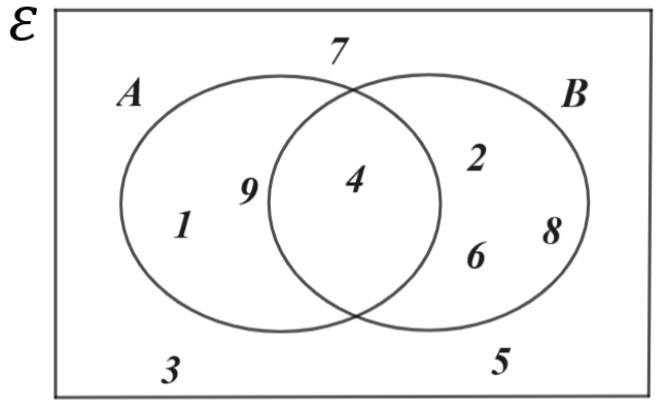
(i) $P(A)$ (ii) $P(B)$ (iii) $P(A')$ (iv) $P(B')$

(c) List the elements of each set using set notation:

(i) $A \cup B$ (ii) $A \cap B$ (iii) $A' \cap B'$ (iv) $A' \cap B$

Question 2

The Venn Diagram below represents sets A and B.



(a) Fill out the sets below with the elements from each set:

$\varepsilon = \{$ $\}$

$A = \{$ $\}$

$B = \{$ $\}$

$A \cup B = \{$ $\}$

$A \cap B = \{$ $\}$

$A' = \{$ $\}$

$B' = \{$ $\}$

(b) One number is chosen at random from the Venn Diagram, find:

(i) $P(A)$ (ii) $P(B)$ (iii) $P(A')$ (iv) $P(B')$

(c) List the elements of each set using set notation:

(i) $A \cup B$ (ii) $A \cap B$ (iii) $A' \cap B'$ (iv) $A' \cap B$

Question 3

$\varepsilon = \{Positive\ integers\ below\ 10\}$

$A = \{Square\ Numbers\}$

$B = \{Factors\ of\ 8\}$

(a) List the elements of each set using set notation:

(b) Draw a Venn Diagram to represent the sets.

(c) One number is chosen at random, find:

(i) $P(A)$ (ii) $P(B)$ (iii) $P(A')$ (iv) $P(B')$

(d) List the elements of each set using set notation:

(i) $A \cup B$ (ii) $A \cap B$ (iii) $A' \cap B'$ (ii) $A' \cap B$

(e) One number is chosen at random, find:

(i) $P(A \cup B)$ (ii) $P(A \cap B)$ (iii) $P(A' \cap B)$

Question 4

$\varepsilon = \{1,2,3,6,7,8,11,12,13\}$

$A = \{Prime\ Numbers\}$

$B = \{Multiples\ of\ 3\}$

(a) List the elements of each set using set notation:

(b) Draw a Venn Diagram to represent the sets.

(c) One number is chosen at random, find:

(i) $P(B)$ (ii) $P(A)$ (iii) $P(A')$ (iv) $P(B')$

(d) List the elements of each set using set notation:

(i) $A \cap B$ (ii) $A \cup B$ (iii) $A \cap B'$ (iv) $(A \cup B)'$

(e) One number is chosen at random, find:

(i) $P(A \cup B)$ (ii)$P(A' \cap B)$ (iii) $P(A' \cap B')$

Question 5

$\varepsilon = \{Integers\ from\ 20 - 30\ inclusive\}$

$A = \{Cube\ numbers\}$

$B = \{Factors\ of\ 100\}$

(a) List the elements of each set using set notation:

(b) Draw a Venn Diagram to represent the sets.

(c) One number is chosen at random, find:

(i) $P(A)$ (ii) $P(B)$ (iii) $P(A')$ (iv) $P(B')$

(d) List the elements of each set using set notation:

(i) $A \cup B$ (ii) $A \cap B$ (iii) $A \cap B'$ (iv) $A' \cap B$