Worksheet on Union and Intersection using Venn Diagrams

Worksheet on union and intersection using Venn diagram will help us to practice various types of questions on Venn diagram. The set of questions are based on operations on sets (Union & Intersection) on Venn diagram.

1. From the given Venn diagram, find the following sets:

(i) P

(ii) Q

(iii) P ∪ Q

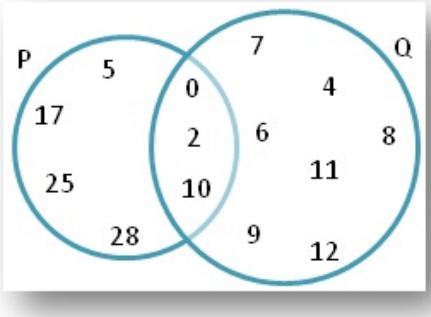
(iv) P ∩ Q

(v) n(P)

(vi) n(Q)

(vii) n(P ∪ Q)

(viii) n(P ∩ Q)



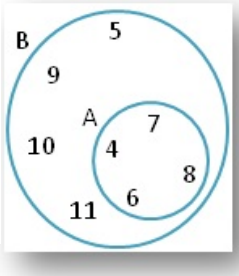
2. From the given Venn diagram, find the following sets:

(i) A

(ii) B

(iii) A ∪ B

(iv) A ∩ B



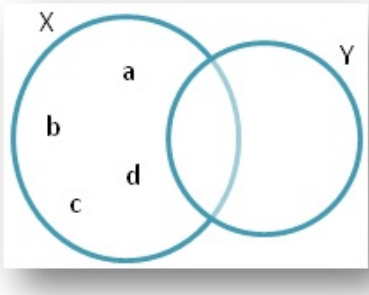
3. Use the given Venn diagram to find the following sets:

(i) X

(ii) Y

(iii) X ∪ Y

(iv) X ∩ Y



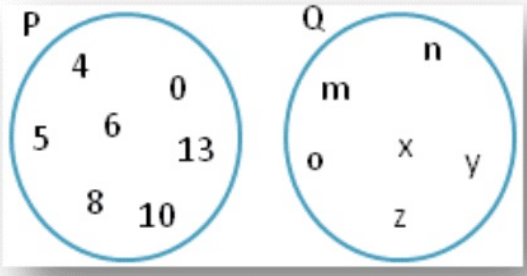
4. Find the sets from the disjoint sets:

(i) P

(ii) Q

(iii) P ∪ Q

(iv) P ∩ Q



5. Given: X = Set of flowers,

Y = Set of red flowers and

Z = Set of flowers which bloom in winter

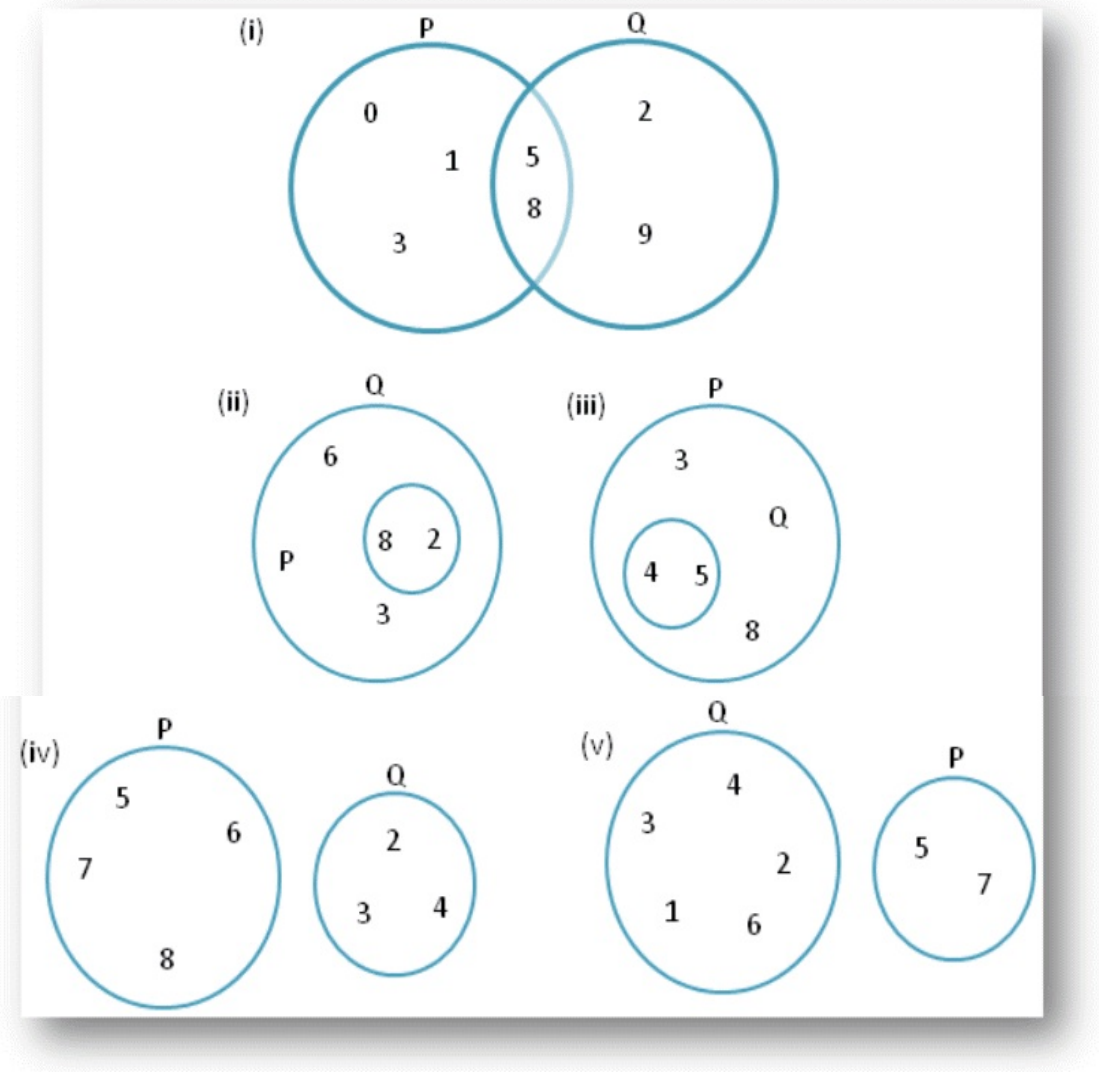
Write each of the following sets in words and represent them by Venn diagram by shading the portion:

(i) $X \cap Y$

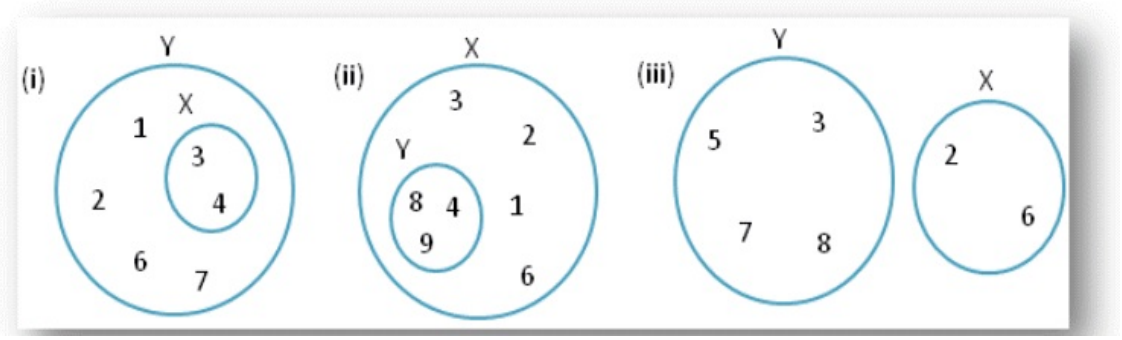
(ii) $Y \cap Z$

(iii) $X \cap Z$

6. For each of the following Venn-diagrams, write the set $P \cup Q$:



7. For each of the following Venn-diagrams, write the set X ∩ Y:



ANSWERS

1. (i) {0, 2, 5, 10, 17, 25, 28}

(ii){0, 2, 4, 6, 7, 8, 9, 10, 11, 12}

(iii) {0, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 17, 25, 28}

(iv) {0, 2, 10}

(v) 7

(vi) 10

(vii) 14

(viii) 3

2. (i) {4, 6, 7, 8}

(ii) {4, 5, 6, 7, 8, 9, 10, 11}

(iii) {4, 5, 6, 7, 8, 9, 10, 11}

(iv) {4, 6, 7, 8}

3. (i) {a, b, c, d}

(ii) ∅

(iii) {a, b, c, d}

(iv) ∅

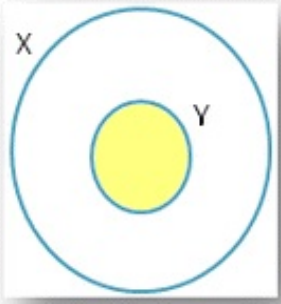
4. (i) {0, 4, 5, 6, 8, 10, 13}

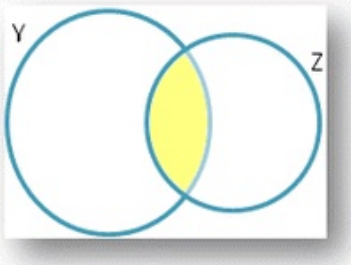
(ii) {o, x, y, z, m, n}

(iii) {0, 4, 5, 6, 8, 10, 13, o, x, y, z, m, n}

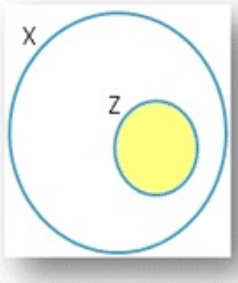
(iv) { }

5. (i) Set of red flowers:





(iii) Set of flowers which bloom in winter:



6. (i) {0, 1, 2, 3, 5, 8, 9,}

(ii) {2, 3, 6, 8}

(iii) {3, 4, 5, 8}

(iv) {2, 3, 4, 5, 6, 7, 8}

(v) {1, 2, 3, 4, 5, 6, 7}

7. (i) {3, 4}

(ii) {4, 8, 9}

(iii) { }