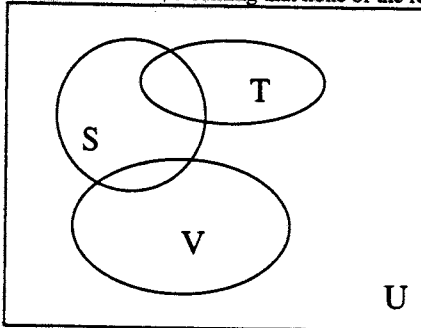


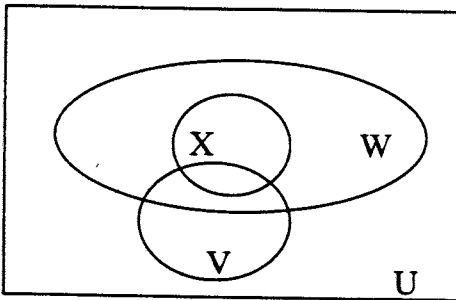
Sets/Statistics Unit

Set Inclusion and Non-Inclusion Handout – Use after section 2.4

1. Sets S, T, U and V are related as shown in the diagram. Which of the following statements is true, assuming that none of the regions of the diagram is empty?

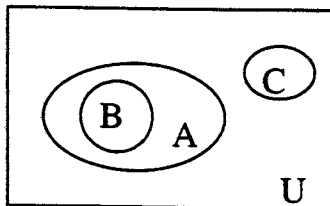


- A. Any element that is a member of S is also a member of T.
B. There is no element that is a member of both S and V.
C. There is at least one element that is a member of both T and S.
D. None of the above is true.
2. Sets U, V, W and X are related as shown in the diagram. Which of the following statements is true, assuming that none of the regions of the diagram is empty?



- A. There is no element common to sets V, X and W.
B. Any element that is a member of both sets X and V is also a member of set W.
C. Any element that is a member of U is also a member of set X or set V or set W.
D. None of the above is true.

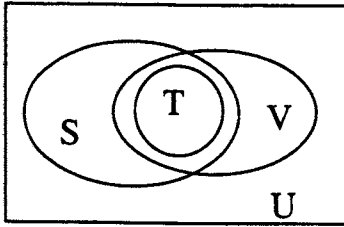
3. Sets U, A, B and C are related as shown in the diagram. Which of the following statements is true, assuming that none of the regions of the diagram is empty?



- A. There is no element common to sets A, B and C.
B. Any element that is a member of set A is also a member of set B.
C. Any element that is not a member of set C is a member of set A.
D. None of the above is true.

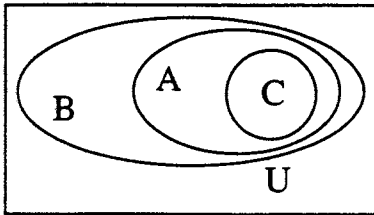
Set Inclusion/Non-Inclusion continued

4. Sets S, T, U and V are related as shown in the diagram. Which of the following statements is true, assuming that none of the regions of the diagram is empty?



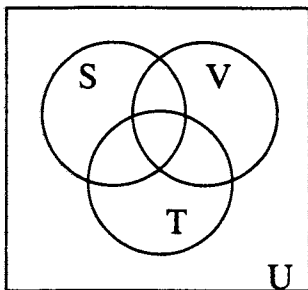
- A. Any element that is a member of sets S and V is also a member of set T.
- B. There is no element common to sets S, T and V.
- C. Any element that is not a member of set V is not a member of set T.
- D. None of the above is true.

5. Sets A, B, C and U are related as shown in the diagram. Which of the following statements is true, assuming that none of the regions of the diagram is empty?



- A. Any element that is a member of set A is also a member of set C.
- B. There is no element common to sets B and C.
- C. There is at least one element that is a member of sets A and C but not of set B.
- D. None of the above is true.

6. Sets S, V, T, and U are related as shown in the diagram. Which of the following statements is true, assuming that none of the regions of the diagram is empty?

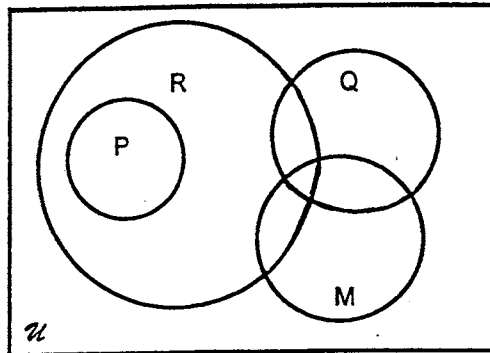


- A. Any element which is a member of V is also a member of S.
- B. No element is a member of both sets V and T.
- C. Any element that is a member of sets S and T is also a member of set V.
- D. None of these is true.

Set Inclusion/Non-Inclusion continued

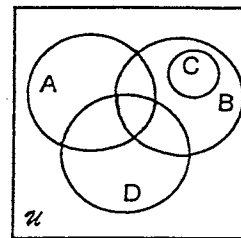
___ 7. Given the Venn diagram, determine which one of the following statements is true? Assume no region is empty.

- A. R and M are disjoint
- B. $P \cup R = R$
- C. $P \cup Q \cup R \cup M = \mathcal{U}$
- D. $Q \cap M = \emptyset$



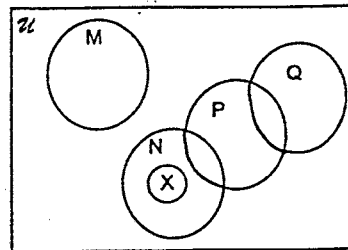
___ 8. Given the Venn diagram, determine which one of the following the statements false. Assume no region is empty.

- A. Every element of B is also an element of \mathcal{U} .
- B. C is a subset of B.
- C. Sets C and D are disjoint sets.
- D. $A \cup B \cup C \cup D = \mathcal{U}$



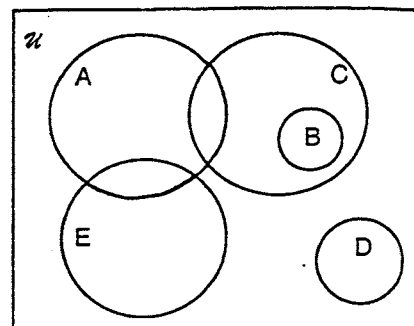
___ 9. Given the Venn diagram, determine which one of the following statement is true. Assume no region is empty.

- A. Q is a subset of P.
- B. M and X are disjoint sets.
- C. Every element of N is also an element of X.
- D. No element of P is also an element of N.



___ 10. Given the Venn diagram, determine which one of the following statements is false. Assume no region is empty.

- A. C is a subset of B.
- B. Sets C and E are disjoint.
- C. Every member of A is also a member of \mathcal{U} .
- D. No element is a member of both sets E and D.



Answers: 1.C 2.B 3.A 4.C 5.D 6.D 7.B 8.D 9.B 10.A