

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

1) Find $n(S \cup T)$, given that $n(S) = 10$, $n(T) = 6$, and $n(S \cap T) = 5$. 1) _____

2) If $n(S) = 10$, $n(R \cup S) = 16$, and $n(R \cap S) = 2$, find $n(R)$. 2) _____

Solve the problem.

3) In a survey of 1000 people, it was found that 720 watched television news programs daily and 434 read a newspaper daily. How many of those surveyed used both media to receive news? 3) _____

4) At a certain university, 540 students are math and computer science majors. If 300 are majoring in math and 120 are majoring in both, how many are majoring in computer science? 4) _____

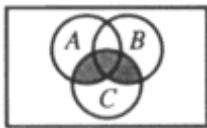
5) Draw a two-circle Venn diagram and shade the portion corresponding to the set $A' \cup B$. 5) _____

6) Draw a two-circle Venn diagram and shade the portion corresponding to the set $(A \cup B) \cap B'$. 6) _____

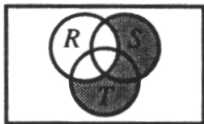
7) Draw a three-circle Venn diagram and shade the portion corresponding to the set $A \cup (B \cap C')$. 7) _____

8) Draw a three-circle Venn diagram and shade the portion corresponding to the set $(A \cup B) \cap C'$. 8) _____

9) Give a set-theoretic expression that describes the shaded portion of the Venn diagram shown below. 9) _____



10) Give a set-theoretic expression that describes the shaded portion of the Venn diagram shown below. 10) _____



11) Simplify the expression $(A' \cap B)'$ using De Morgan's Laws. 11) _____

12) Simplify the expression $S \cup (S' \cap T)'$ using De Morgan's Laws. 12) _____

13) Simplify the expression $(A' \cup B')$ using De Morgan's Laws. 13) _____