



Probability Union, Intersection, Complement - Word Problem Percents to Set Operation

1

Which set notation represents the employees who are in neither group?

In a survey of employees, 58% work remotely, 10% are managers, and 6% are both.

$$n^A(\text{Remo} \cup \text{Mana}) \quad n^B(\text{Remo}) + n(\text{Mana})$$

$$n^C(\text{Remo} \cap \text{Mana}) \quad n^D(\text{Remo} \cup \text{Mana})$$

2

Which set notation represents the customers who are in at least one of the two groups?

In a survey of customers, 10% did both, 40% are in the bought group but not the coupon group, and 10% are in the coupon group but not the bought group.

$$n^A(\text{Boug} \cup \text{Coup}) \quad n^B(\text{Boug} \cup \text{Coup})$$

$$n^C(\text{Boug} \cap \text{Coup}) \quad n^D(\text{Boug}) + n(\text{Coup})$$

3

Which set notation represents the students who are in neither group?

In a survey of students, 8% do both, 85% are in the track group but not the swimming group, and 5% are in the swimming group but not the track group.

$$n^A(\text{Trac} \cup \text{Swim}) \quad n^B(\text{Trac} \cap \text{Swim})$$

$$n^C(\text{Trac} \cup \text{Swim}) \quad n^D(\text{Trac}) + n(\text{Swim})$$

4

Which set notation represents the students who are in at least one of the two groups?

In a survey of students, 50% play basketball, 25% play both, and 45% are in neither group.

$$n^A(\text{Bask} \cup \text{Socc}) \quad n^B(\text{Bask} \cap \text{Socc})$$

$$n^C(\text{Bask} \cup \text{Socc}) \quad n^D(\text{Bask}) + n(\text{Socc})$$

5

Which set notation represents the students who are in neither group?

In a survey of students, 80% take French, 24% take music, and 12% take both.

$$n^A(\text{Fren}) + n(\text{Musi}) \quad n^B(\text{Fren} \cap \text{Musi})$$

$$n^C(\text{Fren} \cup \text{Musi}) \quad n^D(\text{Fren} \cup \text{Musi})$$

6

Which set notation represents the gym members who are in neither group?

In a survey of gym members, 96% take yoga, 22% take spin, and 20% take both.

$$n^A(\text{Yoga}) + n(\text{Spin}) \quad n^B(\text{Yoga} \cup \text{Spin})$$

$$n^C(\text{Yoga} \cup \text{Spin}) \quad n^D(\text{Yoga} \cap \text{Spin})$$

7

Which set notation represents the employees who are in neither group?

In a survey of employees, 85% completed training, 30% hold a certification, and 25% have both.

$$n^A(\text{Trai} \cup \text{Cert}) \quad n^B(\text{Trai} \cup \text{Cert})$$

$$n^C(\text{Trai} \cap \text{Cert}) \quad n^D(\text{Trai}) + n(\text{Cert})$$

8

Which set notation represents the vehicles who are in neither group?

In a survey of vehicles, 53% are SUVs, 27% are red, and 16% are both.

$$n^A(\text{SUV} \cup \text{Red}) \quad n^B(\text{SUV}) + n(\text{Red})$$

$$n^C(\text{SUV} \cap \text{Red}) \quad n^D(\text{SUV} \cup \text{Red})$$