



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

1

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

In a group of 25 students, 16% ride a bicycle, 2 ride both, and 12 are in the skateboard group but not the bike group.

$${}^A n(\text{Bike} \cup \text{Skat}) \quad {}^B n(\text{Bike} \cap \text{Skat})$$

$${}^C n(\text{Bike} \cup \text{Skat})' \quad {}^D n(\text{Bike}) + n(\text{Skat})$$

In a group of 20 vehicles, 15% are in the SUV group but not the red group, 6 are in the red group but not the SUV group, and 7 are in neither group.

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

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

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

3

Which set notation represents the library books who are in neither group?

In a group of 25 library books, 15 are fiction, 12% are both, and 2 are in the hardcover group but not the fiction group.

$${}^A n(\text{Fict}) + n(\text{Hard}) \quad {}^B n(\text{Fict} \cup \text{Hard})$$

$${}^C n(\text{Fict} \cap \text{Hard}) \quad {}^D n(\text{Fict} \cup \text{Hard})'$$

4

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

In a group of 25 students, 12% are in both, 14 are in the band group but not the drama group, and 5 are in the drama group but not the band group.

$${}^A n(\text{Band} \cap \text{Dram}) \quad {}^B n(\text{Band} \cup \text{Dram})$$

$${}^C n(\text{Band}) + n(\text{Dram}) \quad {}^D n(\text{Band} \cup \text{Dram})'$$

5

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

In a group of 20 students, 15% take both, 13 are in the French group but not the music group, and 15% are in the music group but not the French group.

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

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

6

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

In a group of 20 employees, 15% have both, 4 are in the trained group but not the certified group, and 55% are in the certified group but not the trained group.

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

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

7

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

In a group of 100 shoppers, 74% bought fruit, 20 bought both, and 2% are in the veg group but not the fruit group.

$${}^A n(\text{Frui} \cup \text{Veg}) \quad {}^B n(\text{Frui}) + n(\text{Veg})$$

$${}^C n(\text{Frui} \cap \text{Veg}) \quad {}^D n(\text{Frui} \cup \text{Veg})'$$

8

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

In a group of 20 customers, 3 made a purchase this month, 2 did both, and 80% are in the coupon group but not the bought group.

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

$${}^C n(\text{Boug} \cup \text{Coup})' \quad {}^D n(\text{Boug} \cup \text{Coup})$$