



## Probability Union, Intersection, Complement - Word Problem Percents to Probability

1 Among the students in the soccer group, what is the probability that a randomly chosen one is also in the basketball group?

A	$\frac{7}{25}$	B	$\frac{1}{5}$	C	$\frac{10}{13}$
D	$\frac{5}{7}$				

In a survey of students, 20% play both, 6% are in the basketball group but not the soccer group, and 8% are in the soccer group but not the basketball group.

2

In a survey of vehicles, 58% are in the SUV group but not the red group, 32% are in the red group but not the SUV group, and 6% are in neither group.

If one of the vehicles is chosen at random, what is the probability they are in both groups?

A	$\frac{8}{25}$	B	$\frac{47}{50}$
C	$\frac{29}{50}$	D	$\frac{1}{25}$

3 Among the vehicles in the SUV group, what is the probability that a randomly chosen one is also in the red group?

A	$\frac{6}{25}$	B	$\frac{3}{4}$	C	$\frac{2}{7}$
D	$\frac{21}{25}$	E	$\frac{6}{7}$		

In a survey of vehicles, 24% are both, 60% are in the SUV group but not the red group, and 8% are in the red group but not the SUV group.

4 Among the gym members in the yoga group, what is the probability that a randomly chosen one is also in the spin group?

A	$\frac{31}{50}$	B	$\frac{12}{31}$	C	$\frac{14}{31}$
D	$\frac{6}{25}$	E	$\frac{3}{5}$		

In a survey of gym members, 62% take yoga, 40% take spin, and 22% are in neither group.

5

If one of the employees is chosen at random, what is the probability they are in neither group?

In a survey of employees, 25% work in sales, 30% work in marketing, and 20% work in both.

A	$\frac{7}{20}$	B	$\frac{9}{20}$
C	$\frac{1}{4}$	D	$\frac{13}{20}$

6

If one of the students is chosen at random, what is the probability they are in both groups?

In a survey of students, 64% take art, 16% take computer science, and 28% are in neither group.

A	$\frac{2}{25}$	B	$\frac{14}{25}$
C	$\frac{4}{5}$	D	$\frac{3}{5}$

7 If one of the households is chosen at random, what is the probability they are in at least one of the two groups?

A	$\frac{11}{10}$	B	$\frac{41}{50}$	C	$\frac{1}{5}$
D	$\frac{37}{50}$	E	$\frac{23}{25}$		

In a survey of households, 56% have internet, 36% have a streaming service, and 26% are in neither group.

8 Among the library books in the mystery group, what is the probability that a randomly chosen one is also in the available group?

A	$\frac{19}{20}$	B	$\frac{93}{95}$	C	$\frac{3}{20}$
D	$\frac{3}{19}$	E	$\frac{15}{17}$		

In a survey of library books, 95% are mysteries, 17% are available, and 3% are in neither group.