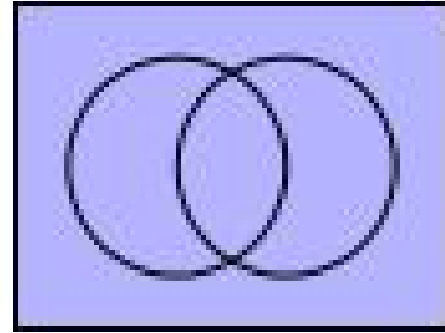# Probability Vocabulary

Universe-- everything! All of the elements in all sets and everything surrounding them.
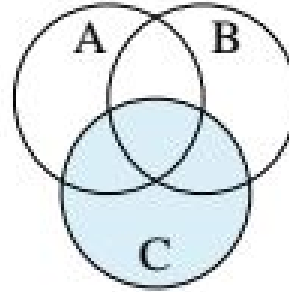
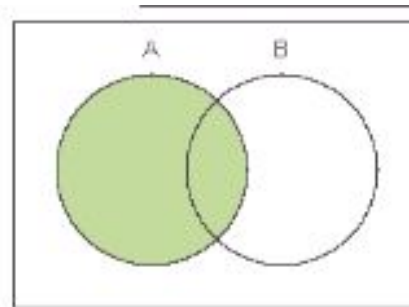Both circles and everything else surrounding them!

Probability Vocabulary

Subset-- some pieces, but not all. Part of the universe.
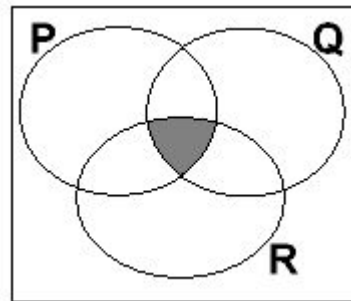
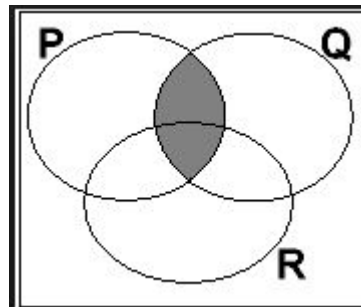This subset shows only C

This subset shows only A

Probability Vocabulary

Intersection-- elements that are common to two (or more) subsets. Also called **"and."**

Written as the symbol ∩

This subset shows P ∩ Q ∩ R

This subset shows P ∩ Q
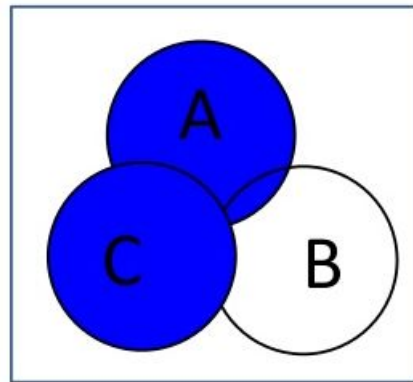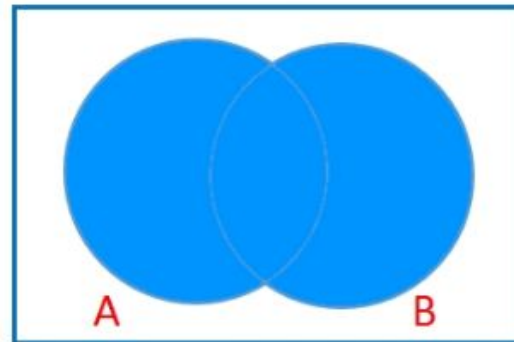
Probability Vocabulary

Union-- the set of elements in subsets A or B or BOTH. Also called **"or."**
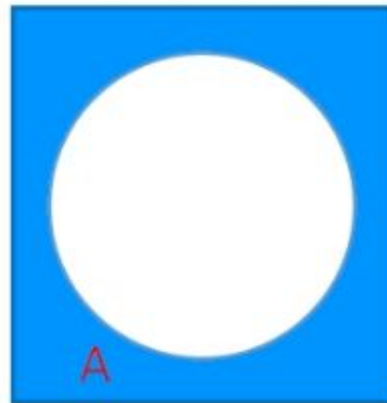
Written as the symbol ∪

This subset shows A ∪ C

This subset shows A ∪ B

Probability Vocabulary

Complement-- the set of elements outside of a given subset. Also called **"not."**
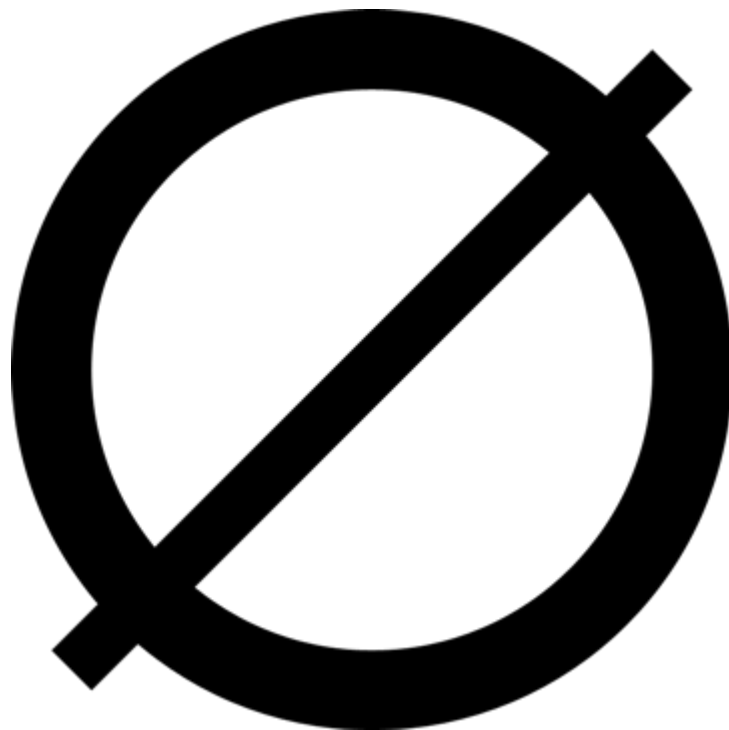
Written as the symbols ~A or A'

This subset shows ~A

Probability Vocabulary

Empty Set-- a set that has no elements-- nothing in common among sets. Also known as "**mutually exclusive**."
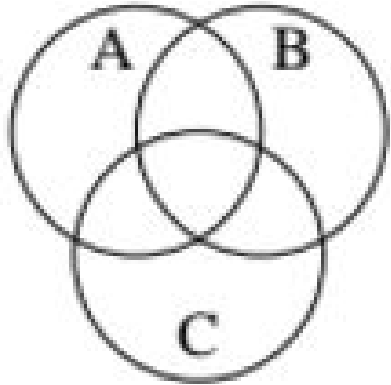
Written as the symbol:

Mix and Match!

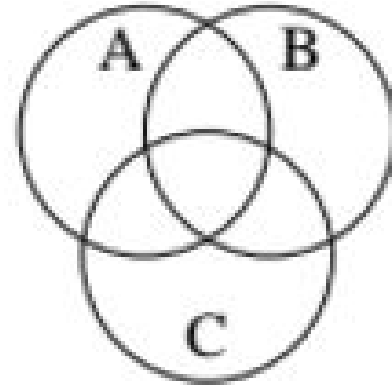Of course, all of these things can be mixed together:

How would you shade

(C ∪ B) ∩ A

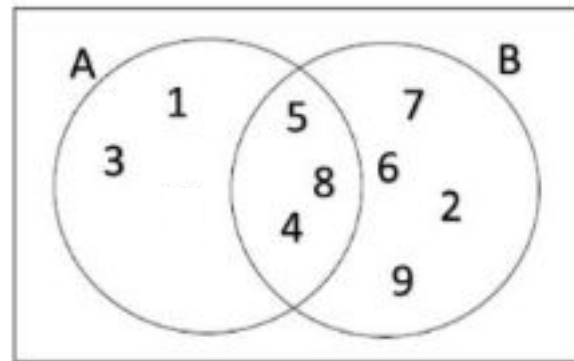How would you shade

C ∩ ~(A ∪ B)

Set Notation

Record the following information:

Which elements are in set A?

Which elements are in set B?

Which elements are in sets A and B?

Set Notation-- a way to NOT use a Venn Diagram

Record the following information:
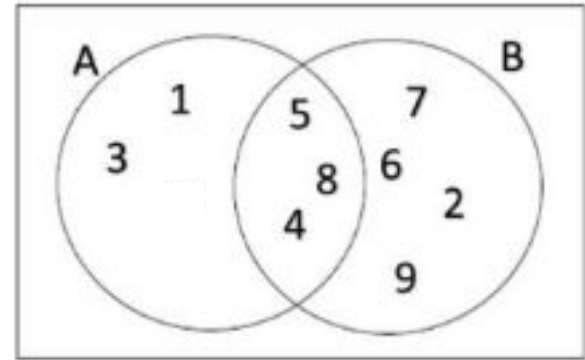
Which elements are in set A?

{1, 3, 4, 5, 8}

Which elements are in set B?

{2, 4, 5, 6, 7, 8, 9}

Which elements are in sets A and B?

{4, 5, 8}

Set Notation-- a little practice

Consider the following sets:

A: {blue, green, yellow, purple, pink}

B: {orange, black, red, brown}

C: {yellow, red, green, teal}

What is:

1) A ∪ B?
2) C ∩ B?
3) (A ∪ B) ∩ C?
4) A ∩ B?