Set Difference

Another operation with sets is called the set difference. So let's go back to the calculus and physics students we described earlier by the sets C and P. If we wanted to talk about the set of students taking calculus but not physics, we'd write **C – P**.

If $C = \{a,b,c,d,e\}$ and $P = \{b,d,f,g,h\}$, then we'd only want the people taking calculus that are not enrolled in physics.

Let's look at one student at a time, *a* is in calculus, but not physics. So *a* works out.

b is in calculus, but he's in physics also, so *b* won't belong.

c is in calculus, but not in physics, so *c* is OK. How about *d*? *d* is in calculus, but he's also in physics, so *d* won't belong.

e is in calculus, he's not in physics, so e is OK to join the set difference.

Another way to look at that set difference to write the members of the calculus class, and tell anyone in that class if they are also taking physics, they have to leave

C – P = {a,c,e}