Creating a Truth Table

To make a truth table, we examine all the possibilities when joining those two statements. Both *p* and *q* could be true.

Both *p* and *q* could be false. Statement *p* could be true and *q* could be false, or statement *p* could be false and *q* true.

Let's use a truth table to show those relationships. But before we do, remember back to how "and" was defined using sets. In sets, "and" was used to show the intersection of two sets. Both conditions must be met to be in the intersection.

What that means to us is that in order for $p \wedge q$ to be true, both conditions must be true.

p	q	$p \wedge q$
T	T	T
T	F	F
F	T	F
F	F	F