f)

p	q	$\sim q$	$\sim q \Leftrightarrow p$
T	T	F	F
T	F	T	T
F	T	F	T
F	F	T	F

g) (yikes!)

p	q	$\neg p$	$\neg q$	$p \cup \neg q$	$(p \cup \neg q) \cap \neg p$
T	T	F	F	T	F
T	F	F	T	T	F
F	T	T	F	F	F
F	F	T	T	T	T

2. Consider the conditional statement shown below:

$$If\ a\ shape\ has\ corners\ that\ measure\ 90°, then\ that\ shape\ is\ a\ square.$$

Use truth tables to determine the truth of the original conditional statement, and its converse, inverse, and contrapositive. If at any point the truth table returns a result of 'false', provide a counterexample.

Refer to example 6 in this lesson if you would like to see this process in action.

3. Consider the conditional statement shown below:

$$If\ a\ person\ is\ a\ child\ in\ Canada,$$
$$then\ that\ person\ is\ between\ the\ ages\ of\ 0\ to\ 17\ years\ old.$$

Use the truth table below to verify that the conditional statement shown above is *biconditional*. If the statement is biconditional, re-write it in biconditional form.

p	q	$p \rightarrow q$	$q \rightarrow p$	$p \leftrightarrow q$