Answer on Question #74713, Math / Discrete Mathematics
Q: Determine whether these biconditionals are true or false.
Biconditional Truth Table

a) $2 + 2 = 4$ if and only if $1 + 1 = 2$.
True: both statements are true.

b) $1 + 1 = 2$ if and only if $2 + 3 = 4$.
False: first statement is true, but second statement is false, making everything false.

c) $1 + 1 = 3$ if and only if monkeys can fly.
True: first statement is false and the second statement is also false, consequently making the biconditional true.

d) $0 > 1$ if and only if $2 > 1$.
False: first statement is false, but second statement is true, making everything false.

p	q	$p \leftrightarrow q$
T	T	T
T	F	F
F	F	T
F	T	F