

CHAPTER 2: TALKING ABOUT MATHEMATICAL OBJECTS

**Problem 2.2.** Make up the truth table for the exclusive version of *or*.

$P$	$Q$	$P \oplus Q$
1	1	0
1	0	1
0	1	1
0	0	0

	$P$	$Q$	$P \Rightarrow Q$	$P \Leftarrow Q$	$P \Leftrightarrow Q$	$\neg(P \Leftrightarrow Q)$
	1	1	1	1	1	0
<b>Problem 2.4.</b>	1	0	0	1	0	1
	0	1	1	0	0	1
	0	0	1	1	1	0

(N.B.

that  $(P \Leftrightarrow Q) \equiv P \Rightarrow Q \wedge Q \Rightarrow P)$