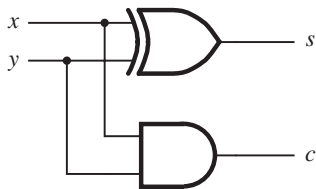


(a) The four possible cases

		Carry	Sum
$x$	$y$	$c$	$s$
0	0	0	0
0	1	0	1
1	0	0	1
1	1	1	0

(b) Truth table



(c) Circuit



(d) Graphical symbol

**Figure 5.2** Half-adder.