

Homework2

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2.40

- (a) 2
- (b) -17
- (c) $+\infty$
- (d) -3.125

2.43

- (a) Hello!
- (b) hELLO!
- (c) Computers!
- (d) LC-2

3.6

A	B	C	D	Z
0	0	1	1	0
0	1	1	0	0
1	0	0	1	0
1	1	0	0	1

3.20

The 16-input multiplexer have 4 select lines and 1 output line.

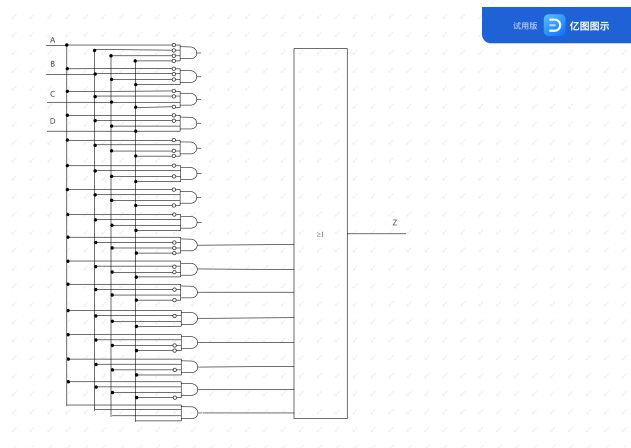
3.23

- (a)

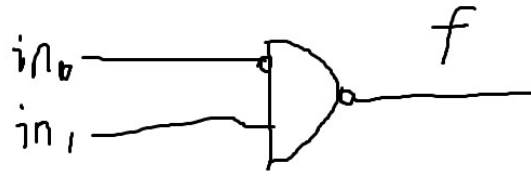
A	B	C	D	Z
0	0	0	0	0
0	0	0	1	0
0	0	1	0	0
0	0	1	1	0
0	1	0	0	0
0	1	0	1	0
0	1	1	0	0
0	1	1	1	0
1	0	0	0	1
1	0	0	1	1
1	0	1	0	1
1	0	1	1	1
1	1	0	0	1
1	1	0	1	1
1	1	1	0	1
1	1	1	1	1

It has 16 rows.

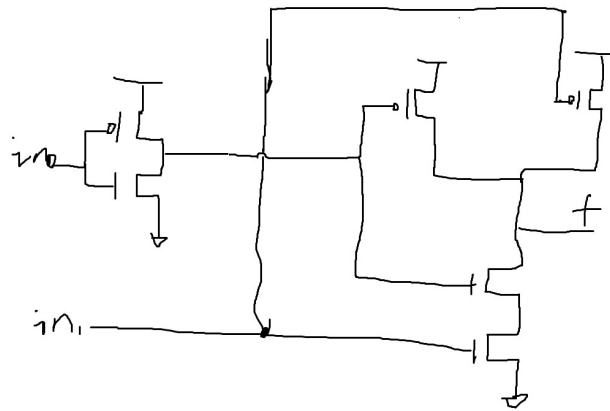
(b)



3.26



gate-level logic



transistor diagram

3.30

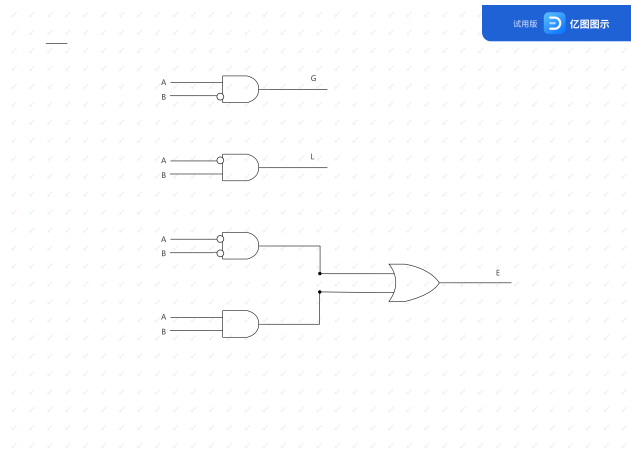
- (a) If $X = 0$, then $S = A + B$. And if $X = 1$, then $S = A + B$.
 (b) Take a same construction as the Figure 3.42, but make $C = (\text{NOT})B$, and make Carry in = X .

3.36

(a)

A	B	G	E	L
0	0	0	1	0
0	1	0	0	1
1	0	1	0	0
1	1	0	1	0

(b)



(c)

