Homework

1. Explain each of the instruments below

교류(AC) 전류를 받아들여서 직류(DC) 전류를 공급하는 장치.

저항, 전류, 전압을 측정할 수 있는 장치.

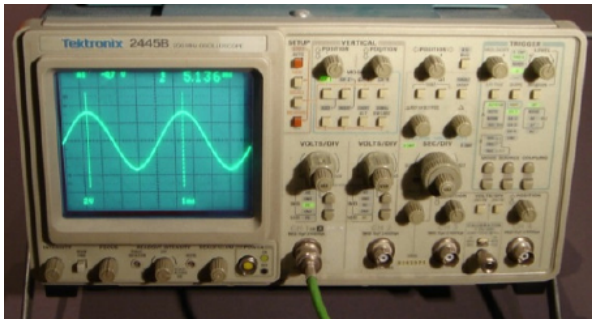
- **DC Power Supply**

- **Multimeter**

- **Function Generator**

여러 형태의 함수를 전압으로 출력하는 장치

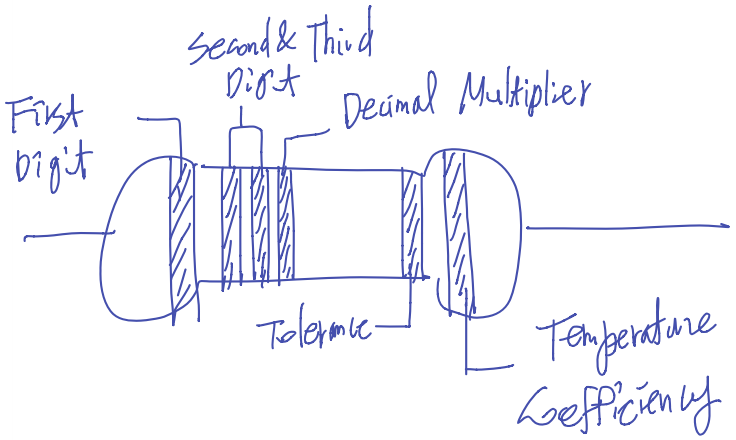
- **Oscilloscope**



특정 시간간격대의 전압변화를 보수 있는 장치.

Homework

2. Explain how to read resistor color coding



	Digit	Multiplier	Tolerance (%)	Temperature Coefficiency
Black	0	10^0	·	·
Brown	1	10^1	±1	100
Red	2	10^2	±2	50
Orange	3	10^3(K)	±3	15
Yellow	4	10^4	±4	25
Green	5	10^5	±0.5	·
Blue	6	10^6(M)	±0.25	10
Violet	7	10^7	±0.1	5
Grey	8	10^8	±0.05	·
White	9	10^9(G)	·	·
Gold	·	÷10	±5	·
Silver	·	÷100	±10	·

$10 \times 10^{-2}\ \Omega$

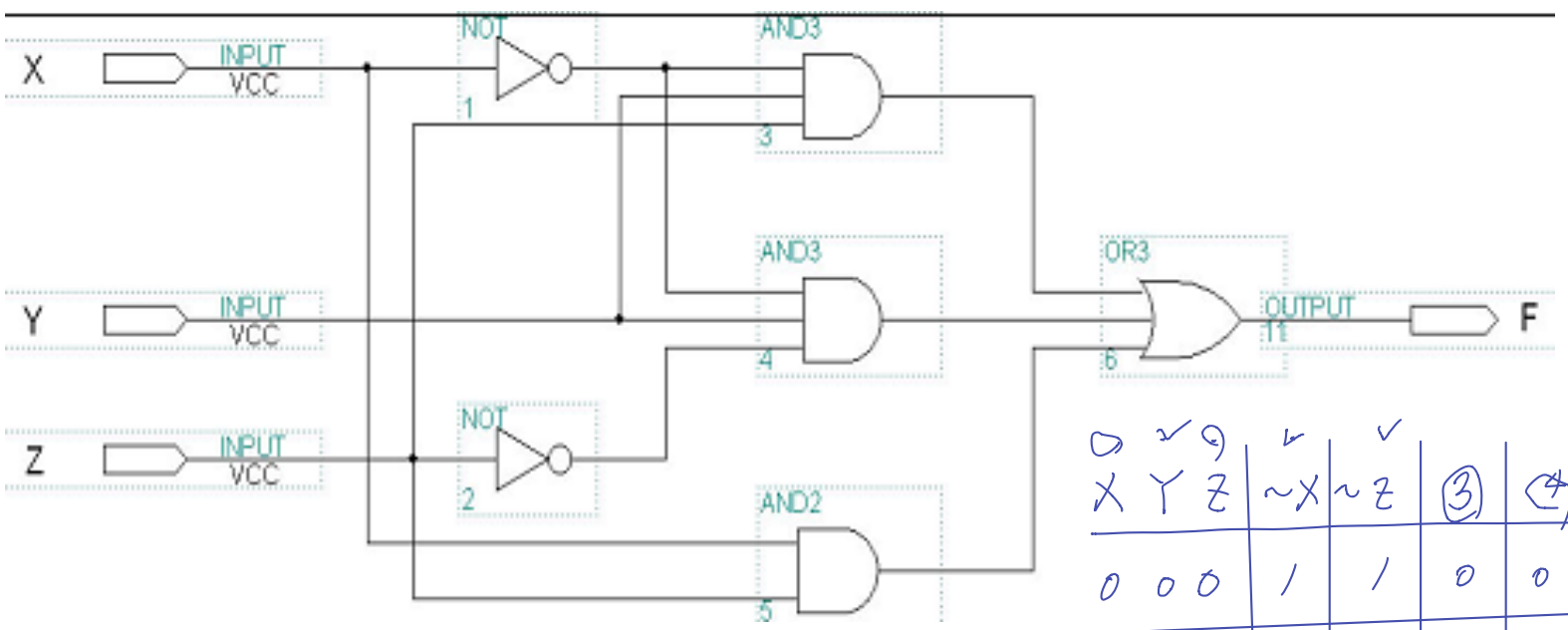
$62 \times 10^{3}\ \Omega = 62k\Omega$

$27 \times 10^{2}\ \Omega$

$30 \times 10^{4}\ \Omega$

Homework

3.



a) Build a truth table for the circuit above

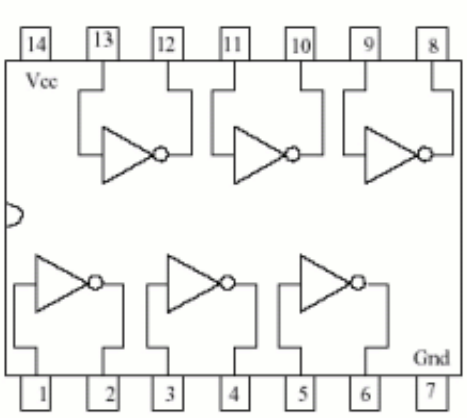
$F = ((\sim X \wedge Y \wedge Z) \vee (\sim X \wedge Y \wedge \sim Z) \vee (X \wedge Z))$

③ ④ ⑤ ⑥

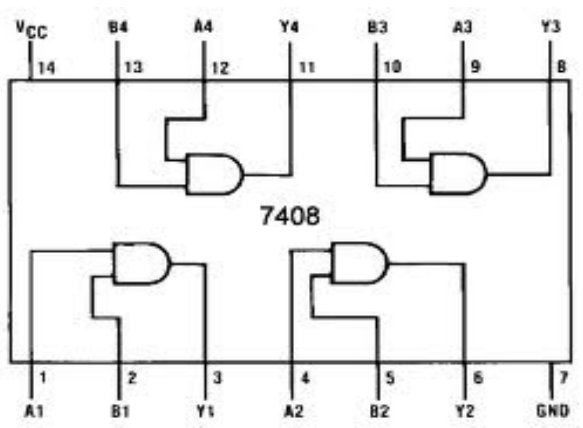
X	Y	Z	~X	~Z	③	④	⑤	⑥
0	0	0	1	1	0	0	0	0
0	0	1	1	0	0	0	0	0
0	1	0	1	1	0	1	0	1
0	1	1	1	0	1	0	0	1
1	0	0	0	1	0	0	0	0
1	0	1	0	0	0	0	1	1
1	1	0	0	1	0	0	0	0
1	1	1	0	0	0	0	1	1

Homework

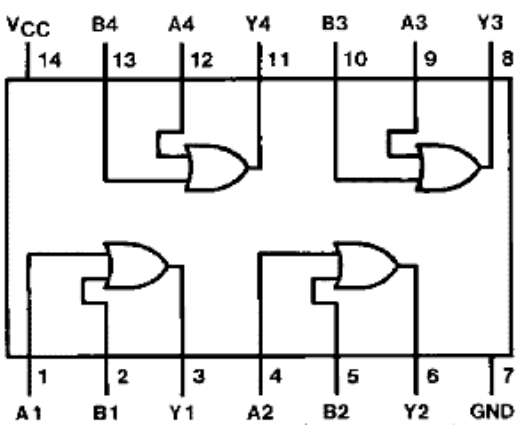
3. b) Draw the circuit wiring diagram for using NOT gate, AND gate and OR gate (on the next page)



NOT gate (7404)



2-input AND gate (7408)



2-input OR gate (7432)

$F = ((\sim X \cap Y \cap Z) \cup (\sim X \cap Y \cap \sim Z) \cup (X \cap Z))$

Ex) Circuit wiring diagram