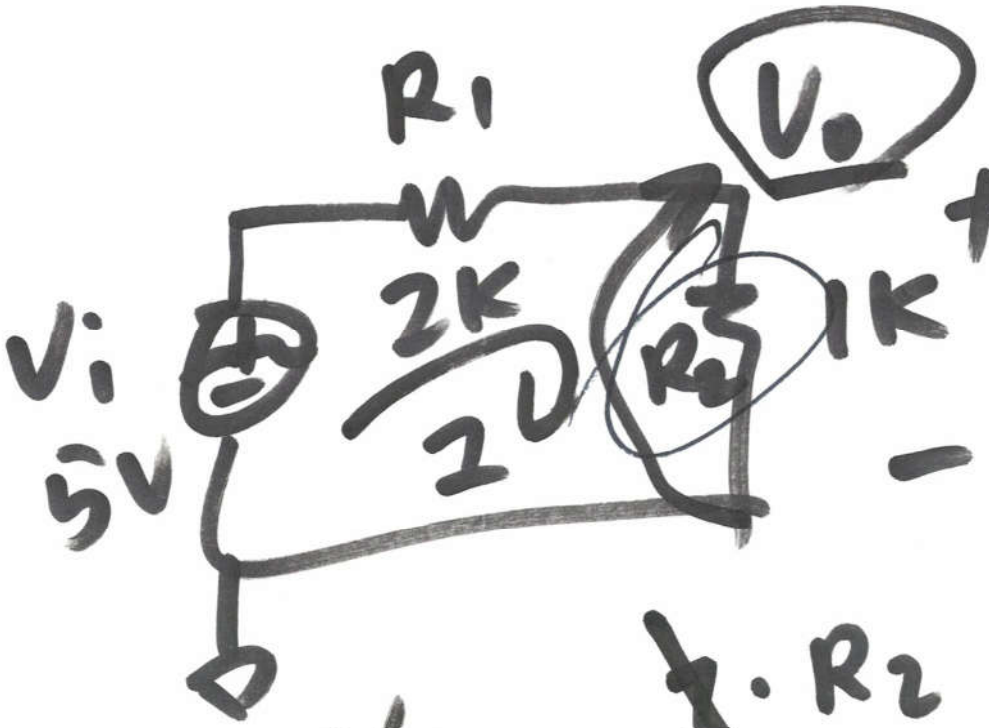
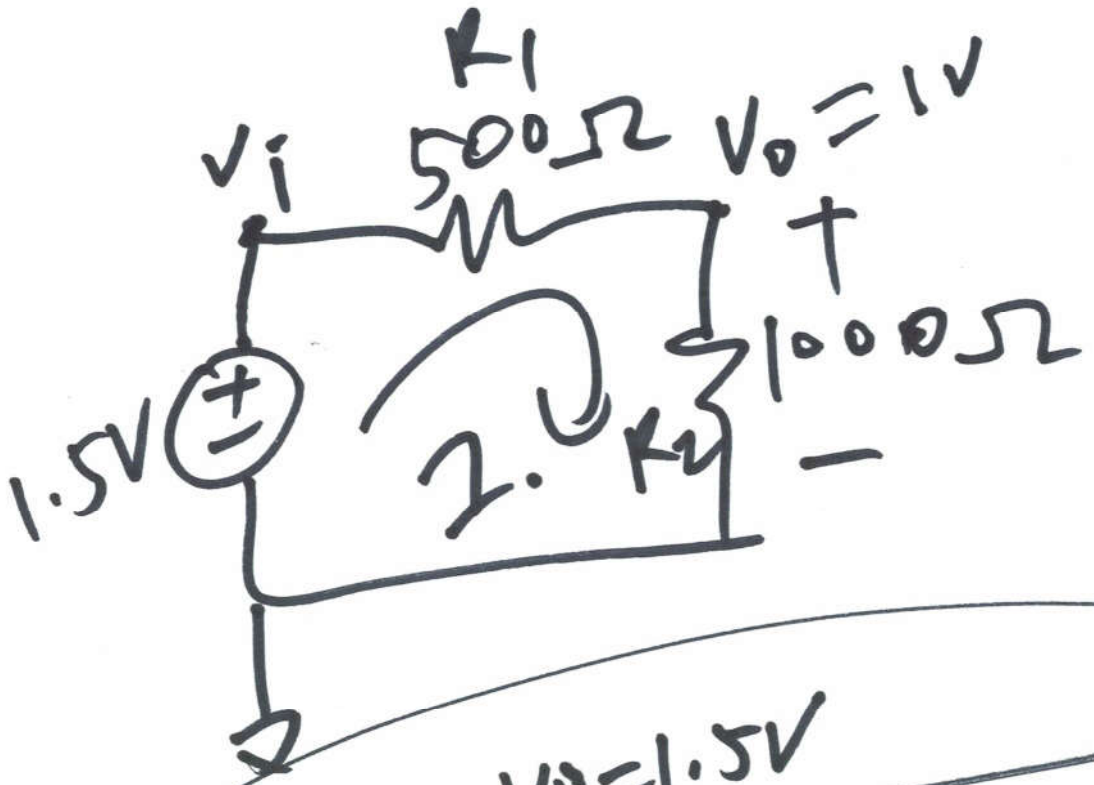


$V_{R_2} = V_o$

$$\frac{V_o}{V_i} = \frac{\cancel{I} \cdot R_2}{\cancel{I} \cdot (R_1 + R_2)} = \frac{R_2}{R_1 + R_2}$$

$$V_o = \frac{R_2}{R_1 + R_2} \cdot V_i$$



I: $V_i = 1.5V$

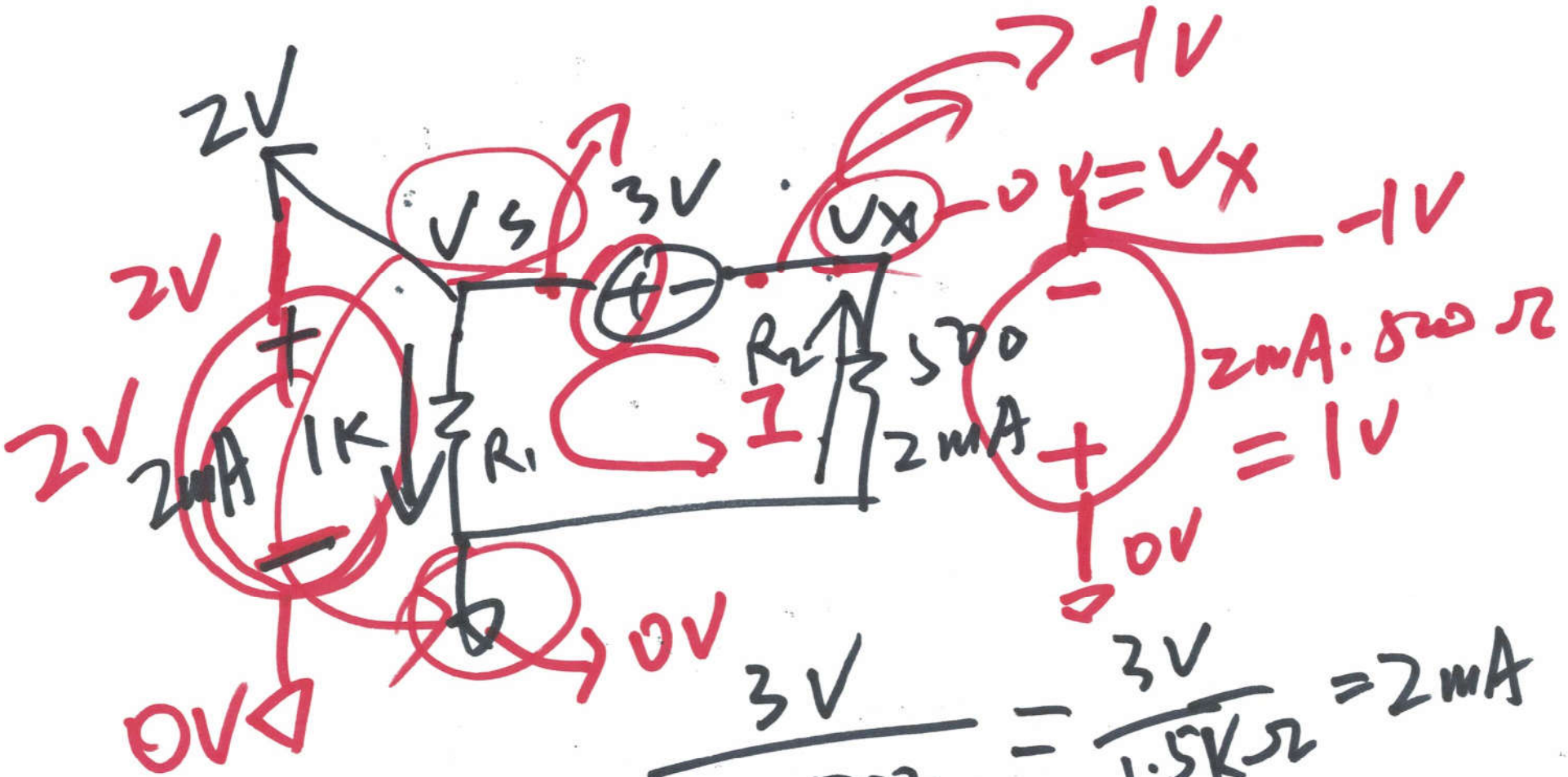
$$V_o = \frac{1000}{500+1000} \cdot V_i$$

II: $I = \frac{1.5V}{500+1000\Omega} = \frac{1.5V}{1.5K\Omega} = 1mA$

$V_o = I \cdot R_2 = 1mA \cdot 1000\Omega$

$= 1V$

(2)



$$I = \frac{3V}{1K+500} = \frac{3V}{1.5K\Omega} = 2mA$$

$$V_{R1} = 2mA \cdot 1K = 2V$$

1457.11_{10} → HEX → binary → Octal

16 | 1457		
16 | 91	1	
16 | 5	11	
0	5	

1/16 | 0.11		
1/16 | 1.76	1	
1/16 | 12.16	12	
3.56	2	

$5B1.1C_{16}$

0101 1011 0001 . 0001 1100$_2$

2661.0734_8

(4)

DEC. → 16

↓

$13 \times 16^2 + 14 \times 16^1 + 12 \times 16^0 + 10 \times 16^{-1}$

$= (\quad)_{10}$

$$\begin{array}{r} 1111 \\ +\ 10110 \\ \hline 11001 \end{array}$$

$$\begin{array}{r} 1111 \\ -\ 1010 \\ \hline 0101 \end{array}$$

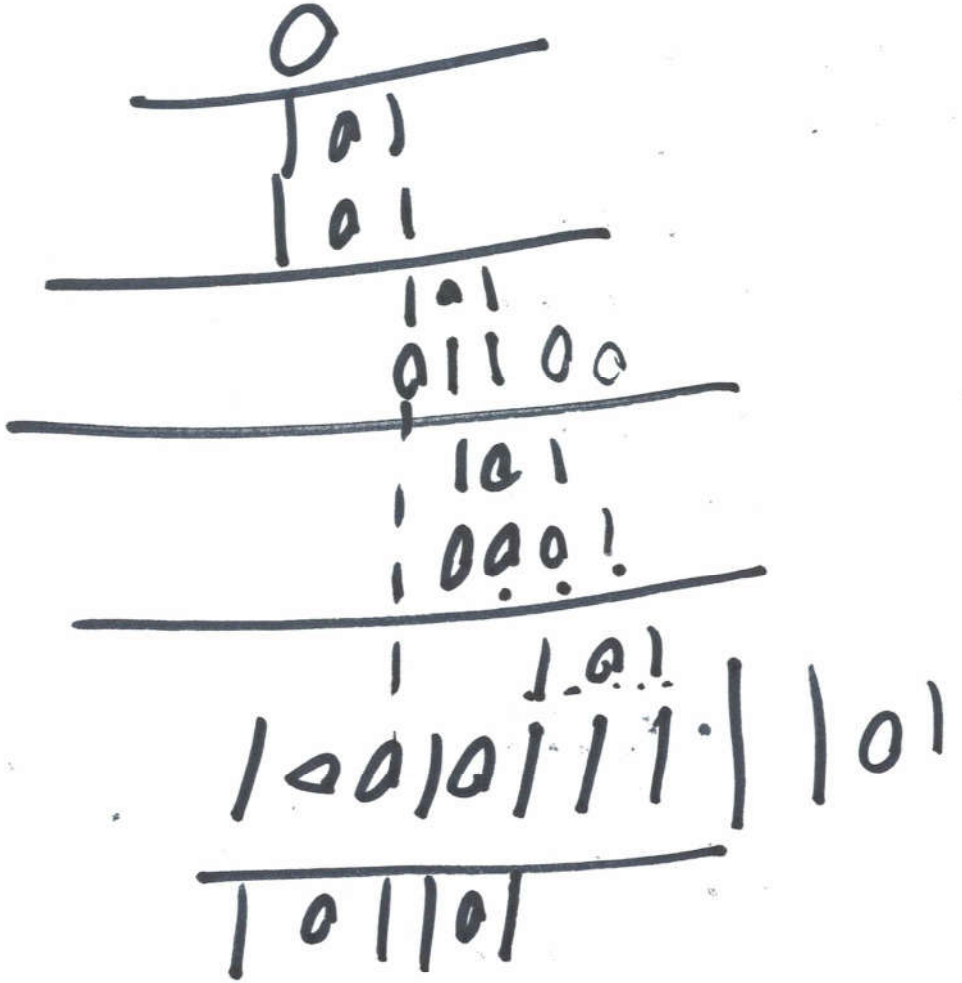
$$\begin{array}{r} 1111 \\ \times\ 1010 \\ \hline 0000 \\ 1111 \\ 0000 \\ 1111 \\ \hline 10010110 \end{array}$$

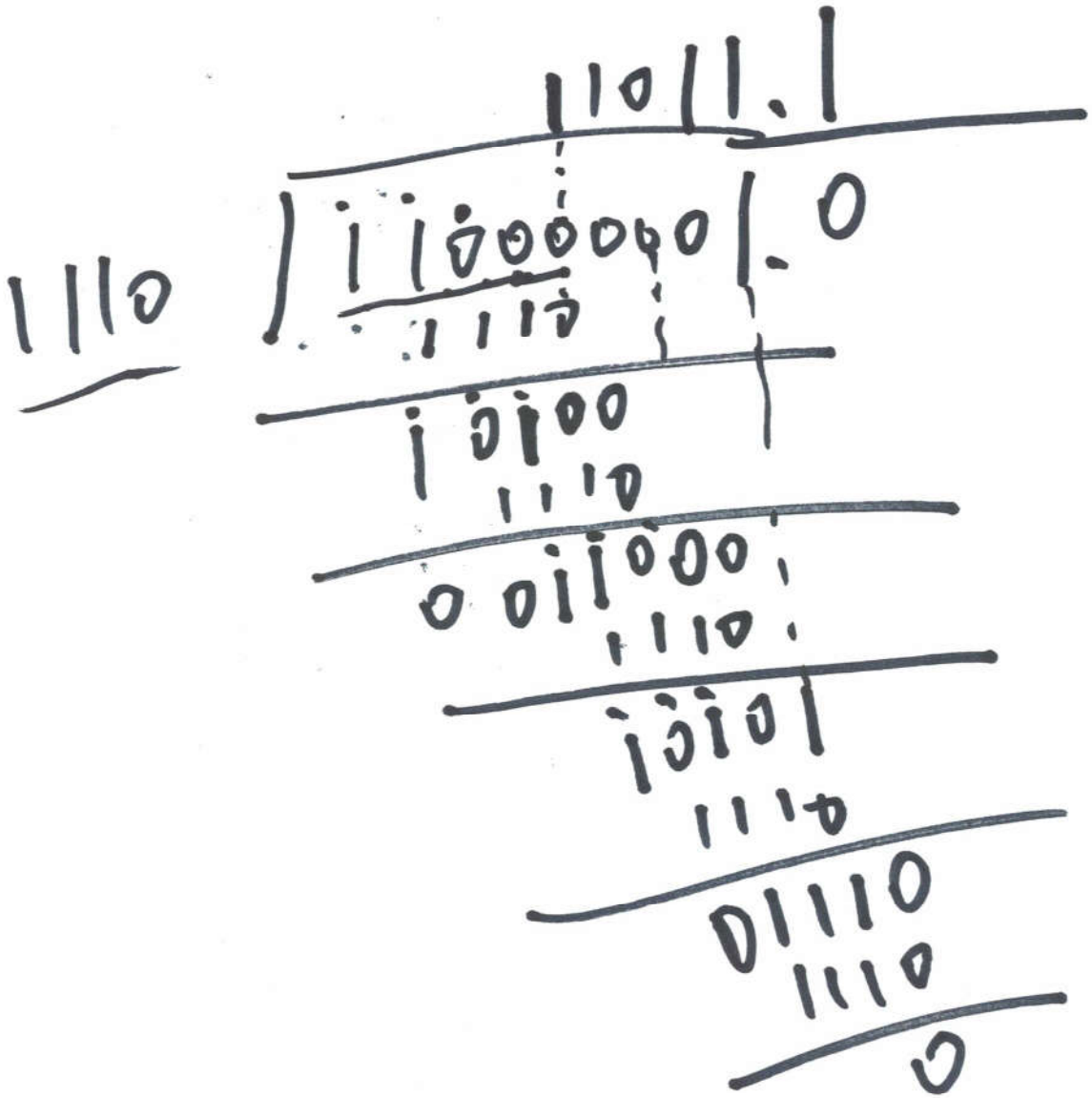
$$
\begin{array}{r}
110110 \\
+\ 11101 \\
\hline
1010011
\end{array}
$$

$$
\begin{array}{r}
110110 \\
-\ 11101 \\
\hline
011001
\end{array}
$$

$$
\begin{array}{r}
110110 \\
\times\ 11101 \\
\hline
110110 \\
000000 \\
110110 \\
110110 \\
110110 \\
\hline
1100001111110
\end{array}
$$

(16)





(18)