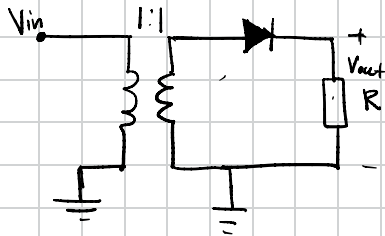
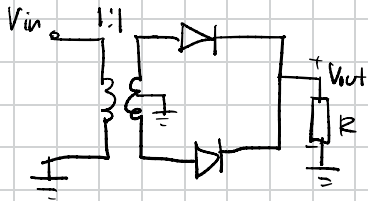
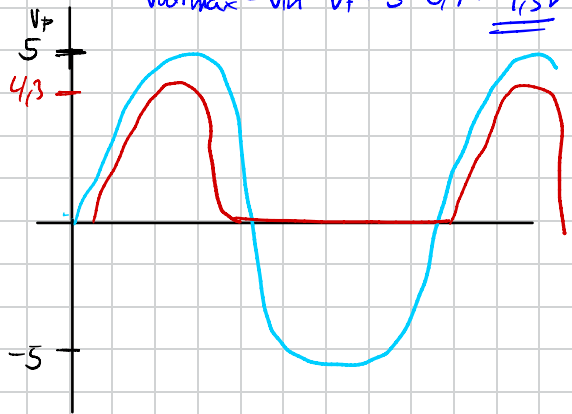


b) Halvperiode

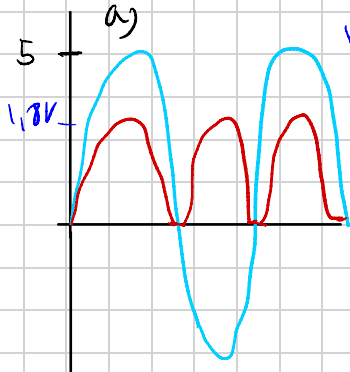


$$V_{in}(t) = 5 \sin(2\pi \cdot 50 \text{ Hz} \cdot t) \text{ V}$$

$$V_{out, \max} = V_{in} - V_f = 5 - 0,7 = \underline{\underline{4,3 \text{ V}}}$$



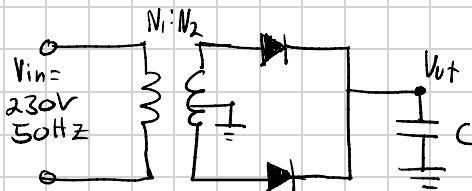
2)



$$V_{out} = \frac{V_{in}}{2} - V_f = 2,5 - 0,7 = \underline{\underline{1,8 \text{ V}}}$$

b) PIV står för "Peak Invers Voltage"  
= Max V i Revers-riktning över dioden  
! den minsta tillåtna.  
PIV =  $V_{sec} - V_f = \underline{\underline{4,3 \text{ V}}}$

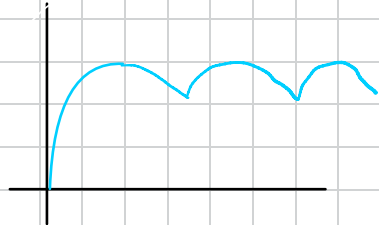
3)



$$V = 230 \text{ V}$$

$$f = 50 \text{ Hz}$$

$$n = 1/30$$

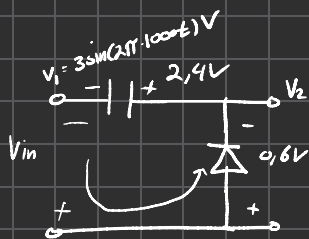
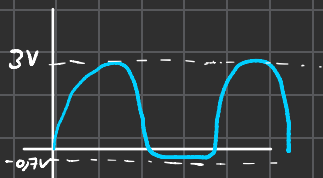
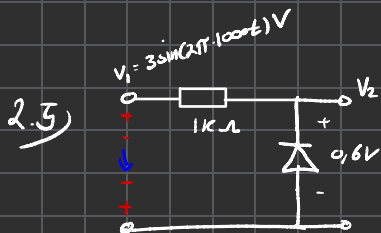


1) a)  $24 - V_R - 0,65 - 0,65 = 0$   $V_R = 24 - V_0 \rightarrow V_0 = 24 - V_R$   
 $V_R = 22,7V$   $V_R = 0!$   
 $= 24 - 22,7$   
 $= \underline{\underline{1,3V}}$

b) 24V c) 24V

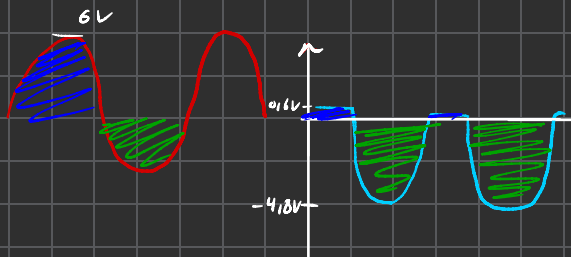
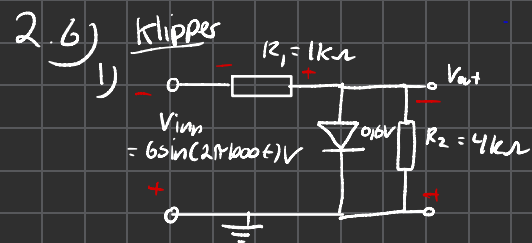
d)  $24 - V_R - 2 \cdot 0,65 - V_R + 24 = 0$   
 $V_R = \underline{\underline{23,35}}$

$V_0 = 24 - 23,35 = \underline{\underline{0,65V}}$

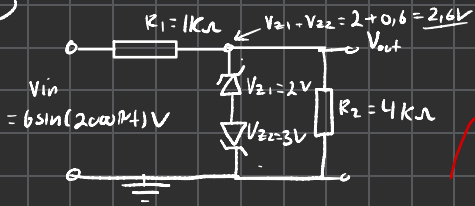


$V_{in} - V_C - V_{out} = 0$

$V_{out} = V_{in} - V_C$

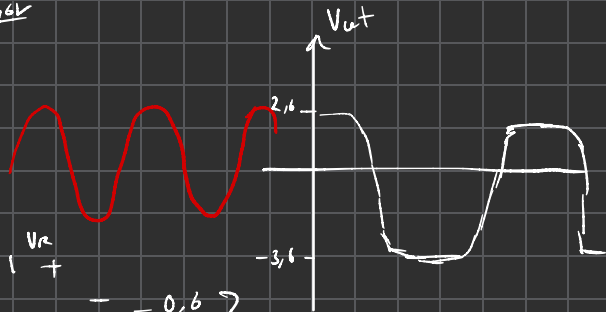


2)



$\Rightarrow V_{Z1} = 2V$   
 $V_{Z2} = 0,6V$   
 $\{ 1,4V$

$\Rightarrow V_{Z1} = -0,6V$   
 $V_{Z2} = -2V$   
 $\{ 2,4V$

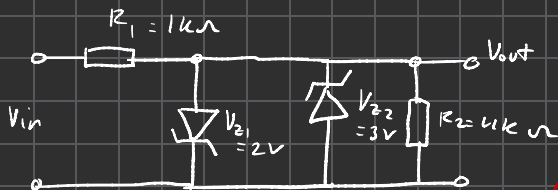


$V_R$   
 $\begin{matrix} - & -0,6 \\ + & + \\ - & -3V \\ + & + \end{matrix} \} \underline{\underline{-3,6V}}$

$0V = V_{in} + V_R + 0,6 - 3V$

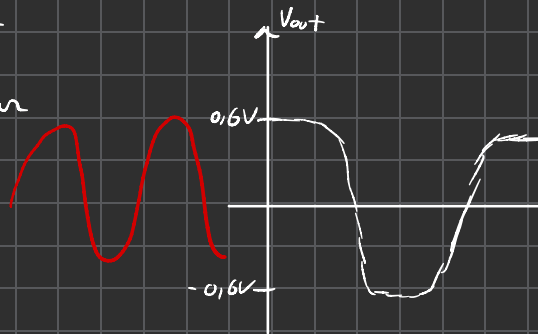
$\begin{matrix} + & + \\ + & + \\ - & - \end{matrix} \begin{matrix} 1 \\ 2V \\ 0,6V \end{matrix} \} \underline{\underline{2,6}}$

3)



$V_R$   
 $\begin{matrix} + & +0,6 & +3V \\ 6V & 2V & 3V \\ - & - & - \end{matrix}$

$\begin{matrix} 1 & + \\ - & -2V & -0,6V \\ 6V & +2V & +3V \\ + & + & + \end{matrix}$



Dioder med minst spänning vil "lede"!