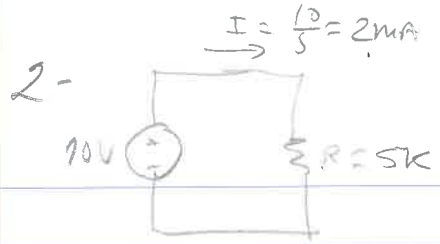
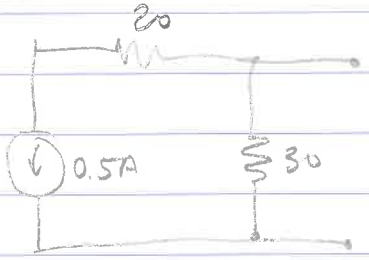
2-



$P = V \times I = 10 \times 2 = 20mW$ (d)

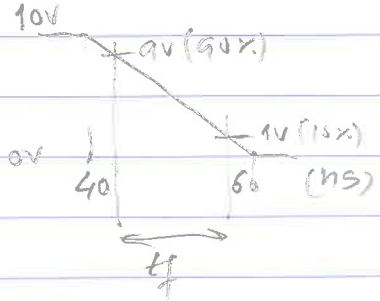
9-



$V_{th} = -0.5 \times 30 = -15V$

$R_{th} = 30\Omega$ (d)

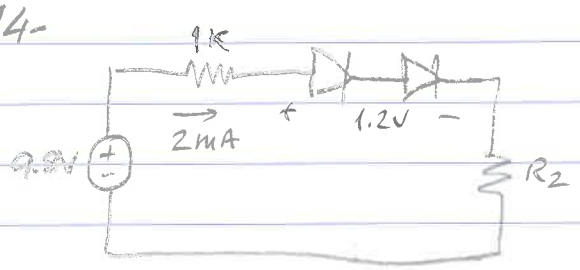
13- 10V



$\frac{10}{20n} = \frac{8}{t_f}$

$t_f = \frac{20}{10} \times 8 = 16ns$ (b)

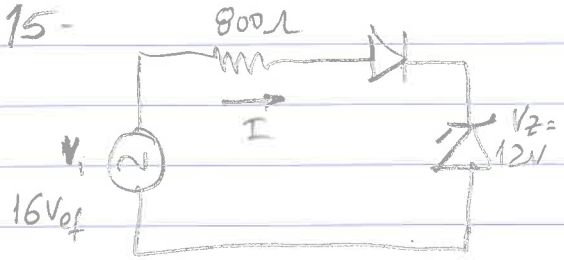
14-



$2mA = \frac{9.8 - 1.2}{1 + R_2}$

$R_2 = \frac{8.6}{2} - 1 = 3.3K$ (a)

15-

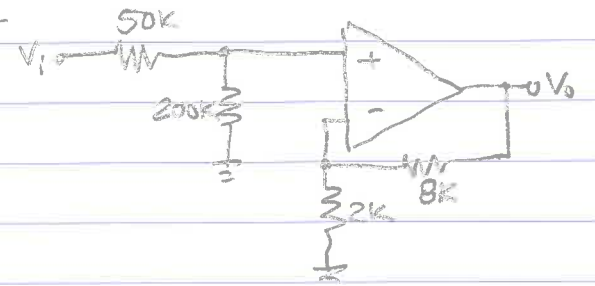


$V_{imax} = V_{ef}\sqrt{2} = 22.63V$

$I = \frac{22.63 - (0.6 + 12)}{0.8}$ (b)

$I = 12.5mA$

17-



$\frac{V_o}{V_i} = \frac{200}{200+50}\left(1 + \frac{9K}{2K}\right)$

$= \frac{200}{250} \times 5 = +4$ (c)