ECE 210 **Practice problems - 1** Jan 26, 2013
Sept 23, 2014

1) Find magnitude and angle of Z

a) $Z = 1 + j2$, b) $Z = -1 + j2$

c) $Z = -1 - j2$, d) $Z = 1 - j2$

e) $e^{j\pi}$, $e^{j\frac{\pi}{2}}$

2) Find Real and imaginary parts of

a) $5e^{j\frac{\pi}{6}}$, b) $2e^{-j\frac{\pi}{3}}$, c) $e^{j\frac{\pi}{4}}$

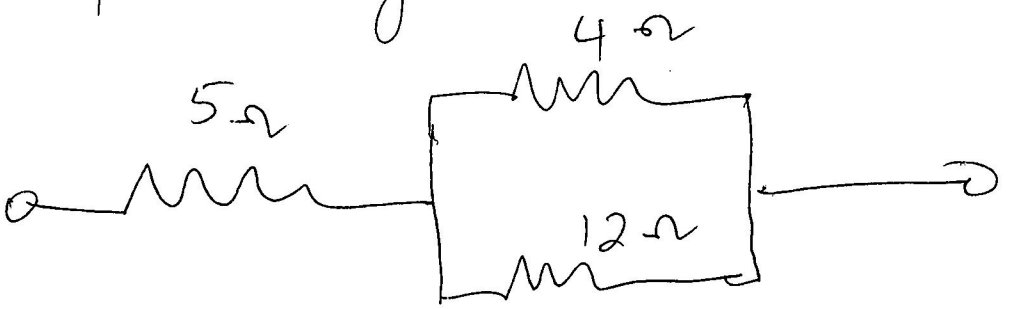
d) $\sqrt{3+j4}$ e) $(3-j4)^{1/3}$

f) $\frac{2+j3}{3+j4}$, g) $(2+j3)(3+j4)$

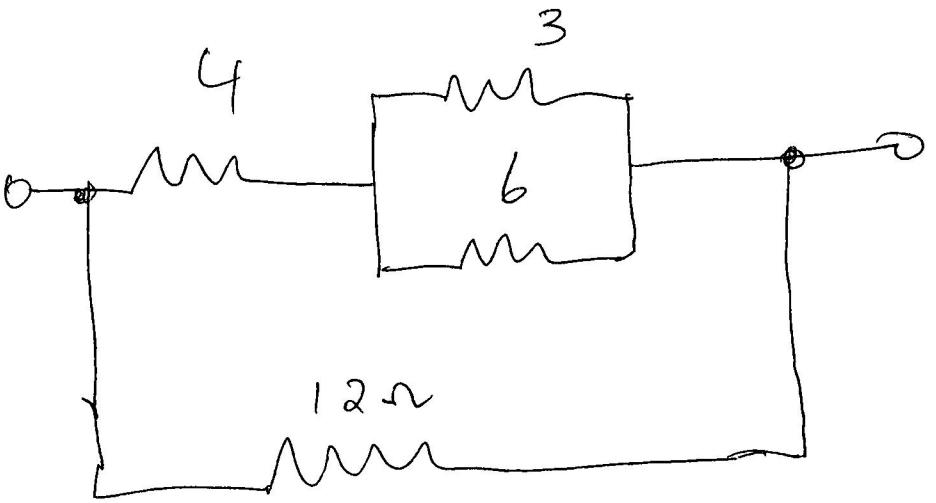
h) $(2+j3)e^{j\frac{\pi}{3}}$ i) $\frac{e^{j\pi/4}}{3+j4}$

3) Find equivalent R, L or C for the following combinations

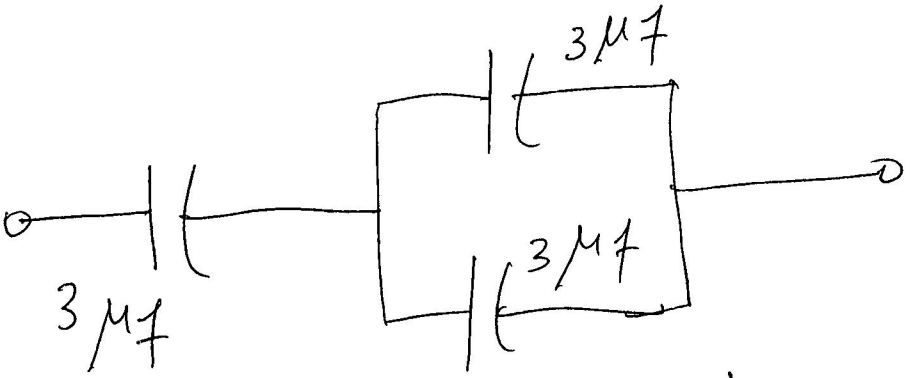
a)



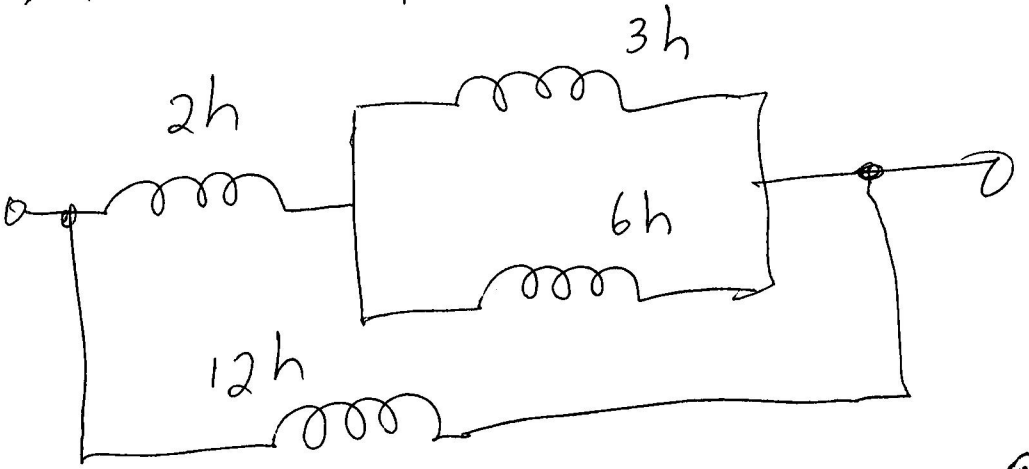
b)



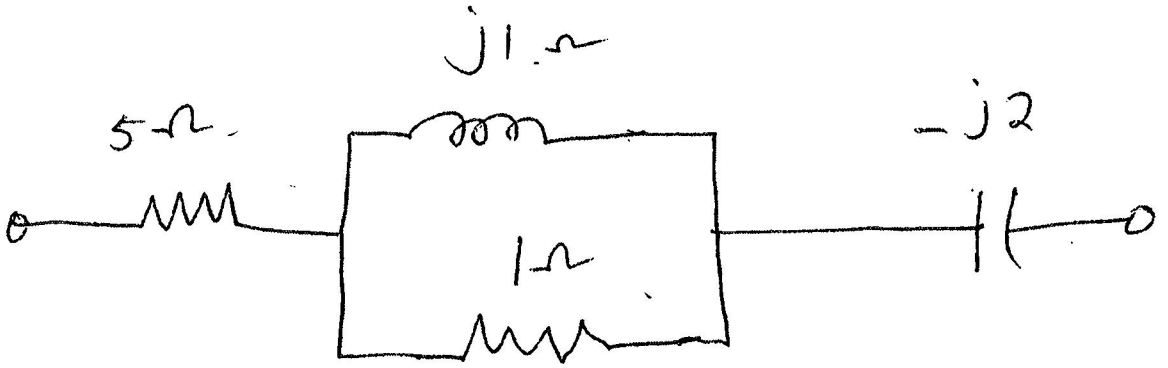
c)



d)

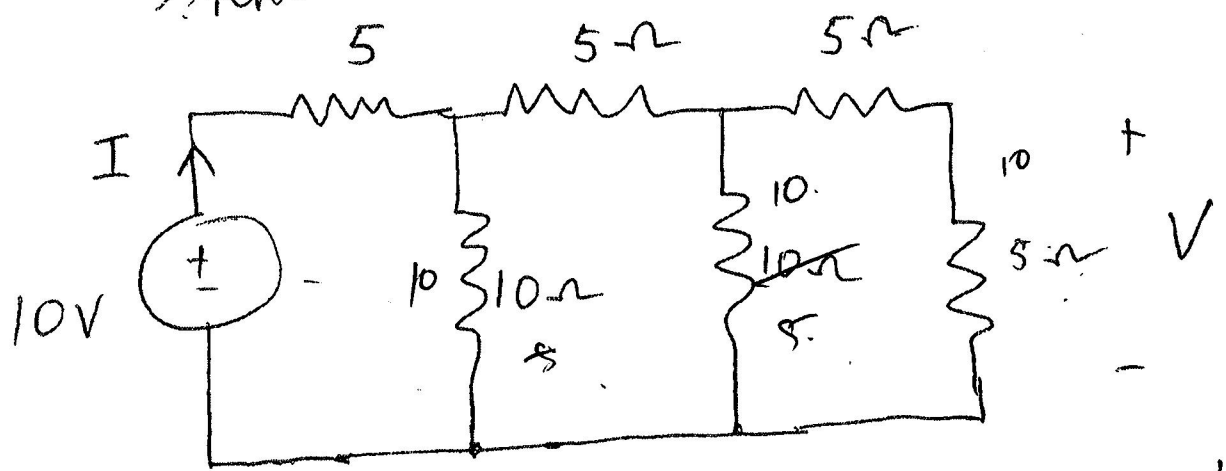


3 e)



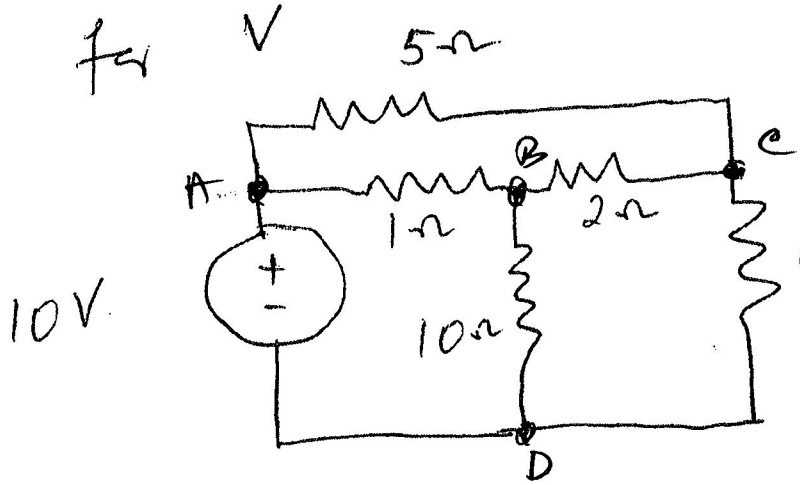
Find equivalent impedance Z.

4) Find I and V for the circuits shown

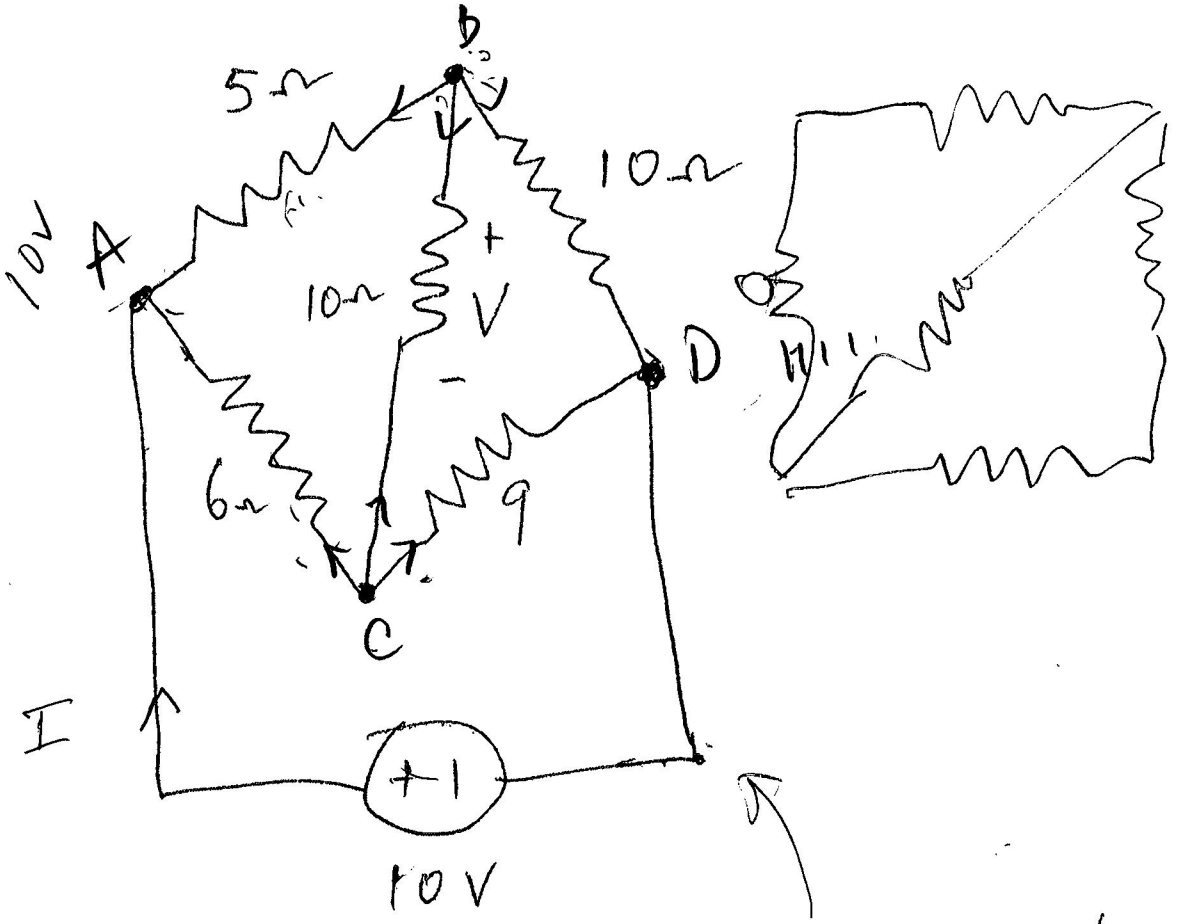


5) Write node equations and solve for V

a)

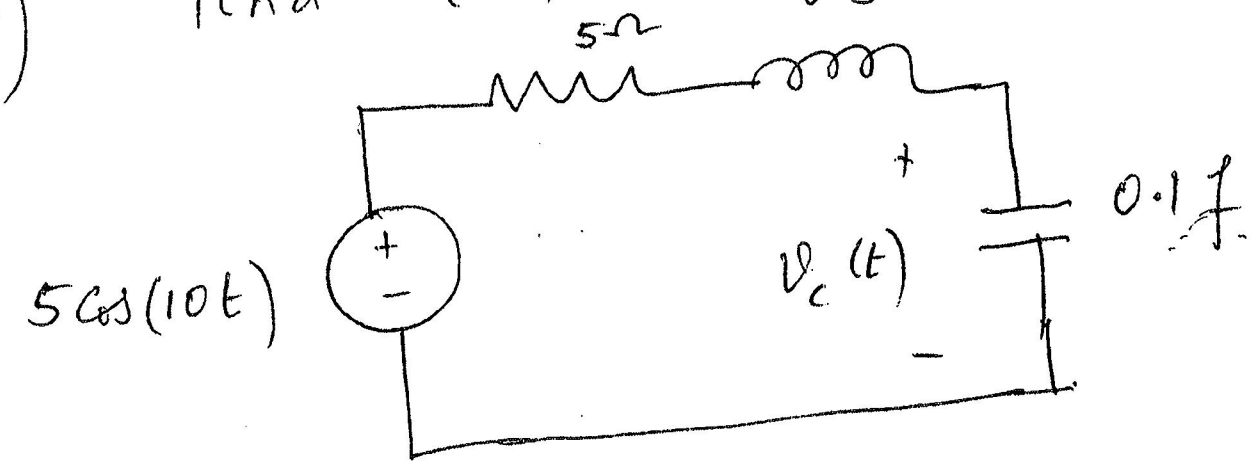


5 b)



Write node equations and solve to find I

c) Find $v_c(t)$



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