Derek White

8.) a = **8.8kOhms** b = **5.722kOhms** c = **17.84MOhms**

19.) a: Rt = 8.8k, V/R=I, 5.5V/8800Ohms = **625microAmps**; b: Rt = 3.76MOhms, V/R=I, 16V/3760000 = **4.2microAmps**

20.) a: R1 = .000625*2200 = **1.375V**, R2 = .000625*5600 = **3.5V**, R3 = .000625*1000 = **0.625V**; 1.375+3.5+.625 = 5.5V via KVL b: R1 = .0000042*1000000 = **4.2V**, R2 = .0000042*2200000 = **9.24V**, R3 = .0000042*560000 = **2.352V**; 4.2+9.24+2.352 = 15.792V ~ 16V via KVL

23.) KVL = 21.7+14.5+6.58+30.9=73.68V=Vs, I=65.8mA R=V/I; R1=21.7/.0658=**33 Ohms**, R2=14.5/.0658=**22 Ohms**, R3= 6.58/0.658=**10 Ohms**, R4= 30.9/0.658= **47 Ohms** *Rounded values of resistance up.*

24.) R3 = 2.21V R=V/I, 2.21/0.0123=**179.6 Ohms**, Rt = 12/0.0123 = **975.6 Ohms**, R2 = Rt-R1-R3 = 975.6-82-179.6 = **714 Ohms**

31.) a: KVL = 10+5+8 = **23V**, b: 10+50+25 = **85V**

34.) a: 15V = -2-V2-3.2-1-1.5-0.5, V2 = **6.8V** b: Rt = R+R+2R+3R+4R = 11R, Vr = R/Rt(Vs), 8=R/11k(Vs), Vs = 88V, V2R = 2R/11R, 88V = **8+8+16+24+32**

36.) Vs = 9V, R1= 5.6V, P2 = 22mW, I=10mA; V2= .022/.010 = 2.2V, R1= V/I = 5.6/.01 = **560 Ohms**, R2= 2.2/.01= **220 Ohms**, Rt = 900 Ohms, R3= Rt-R1-R2 = 900-560-220 = **120 Ohms**