Solutions to the Practice Midterm

1.parallel, larger, active, cannot

2. (a) R1 and R2 are 6 and 12 ohms
   (b) see your lecture notes. A Zener diode is useful as a very good,
stable voltage supply, i.e. as a voltage regulator.

3. (a) this should be easy from your lecture notes
   (b) voltage recored by voltmeter is
10*RL*R2 / [RLR2 + RLR1 + R1R2]
   (c) Ideally, R1 = 0, R2 = infinity
   (d) Then, the volmeter would measure 10 volts.

4. Vout = Vin*R2 / (R2-R1)

5. Vout = -(1/d) arcsinh (Vin/2cR)

6. Was not posted, but it was similar to problem 4.12 in the text. Basically you are
asked to find the Thevenin equivalent of a simple circuit with one dependent voltage sourse.