

Announcements for Monday, April 9, 2012

- **Handouts:** complex numbers pretest, SG device worksheet
Fill out pretest now! (not graded, but put your name on)
- Quiz 2 returned up front. Class average: 8.3. Main issue: final voltage is *not* determined by electron rate or intensity.
- Problem set #4 due up front. PS#3 returned.
- Q6 tomorrow: we'll go through online lecture notes.
- Wednesday in Sm1094. Quiz 3 will be on **Friday** this week.
- Warm-up two-minute problems:
 - Q5T.1: I do a), b), c); you do e), g), h), i), j)
 - Q5T.2 (preliminary look before homework)
- Complex number warm-up (fill in the blanks):

Start with $e^{i\theta} \cdot e^{i\phi} = e^{i(\theta+\phi)}$ and apply $e^{i\alpha} = \cos \alpha + i \sin \alpha$

$$(\cos \theta + i \sin \theta) \cdot (\cos \phi + i \sin \phi) = \cos(\theta + \phi) + i \sin(\theta + \phi)$$

Equate real and imaginary parts *separately*:

$$\cos(\theta + \phi) =$$

$$\sin(\theta + \phi) =$$