

## Lecture 13 (2/16/05)

### Electrostatics

5. Green's reciprocity theorem: stated in Jackson problem 1.12 (pg.52)
6. Conductor: equipotential
7. Capacitance (Jackson 1.11, pg.40)

$$Q_i = \sum_{j=1}^n C_{ij} V_j$$

$$W_{int} = \frac{1}{8\pi} \sum_{i \neq j}^n \frac{q_i q_j}{|\vec{x}_i - \vec{x}_j|}$$

$$W = \frac{1}{2} \int d^3x \rho(x) \Phi(x)$$

$$W = \frac{1}{2} \sum_{i=1}^n \sum_{j=1}^n C_{ij} V_i V_j$$

2-conductors:

$$C = \frac{Q}{\Delta V}$$