Example

Two blackbody rectangles, 0.6 m by 1.2 m, are parallel and directly opposed. The bottom rectangle is at T_1 = 500 K and the top rectangle is at T_2 = 900 K. The two rectangles are 1.2 m apart.

(a) Find the view factors $F_{1->2}$ and $F_{2->1}$.
(b) Find the radiant exchange *between* the two surfaces.
(c) Find the rate at which the bottom rectangle is losing energy if the surroundings (other than the top rectangle) are considered to be a blackbody at 300 K.

For the heat transfer calculations, you are strongly encouraged to draw all relevant resistors and currents (heat transfer rates).