Exercise 2:   Gini Index is $\frac{1}{2}$;

Exercise 3: Gini Index is $\frac{3}{8}$. Note that you already did the key part of the integration for Exercise 2. You don't have to do it twice.

Exercise 4: (a) You will need to solve algebraically an equation of the form

$$\frac{9}{20} = 1 - \frac{2}{p+1}$$

The answer is $p = \frac{29}{11}$.

(b) Bottom 95 percent earn $.95^{29/11} \approx .874$