a) Linear taper from $C_t$ to $C_e$: 

$$C(y) = C_t + (C_e - C_t)\frac{2y}{b}$$

or

$$C(y) = \frac{2}{1+r} C_{avg} \left[ 1 - (1-r)\frac{2y}{b} \right]$$

b) $\Gamma_{(y)} = \frac{1}{2} V(y) C(y) \Rightarrow C_{e}(y) = \frac{2\Gamma_{y}}{V_{\infty} C_{(y)}} = \frac{2\Gamma_{e}}{V_{\infty} C_{avg}} \frac{1+r}{2} \frac{\sqrt{1-(2y/b)^2}}{1 - (1-r)(2y/b)}$

The middle $r=0.50$ case has the smallest $C_{e}\max / C_L$, so it has the largest stall margin.