$B(X,Y) = \{f : f$ is a bounded function with $f: X \to Y\}$

e.g. If $X = [0,10]$, $Y = \mathbb{R}$

$f : [0,10] \to \mathbb{R}$ with $f(x) = x$

Then $f \in B([0,10], \mathbb{R})$.

If $g : [0,10] \to \mathbb{R}$ with

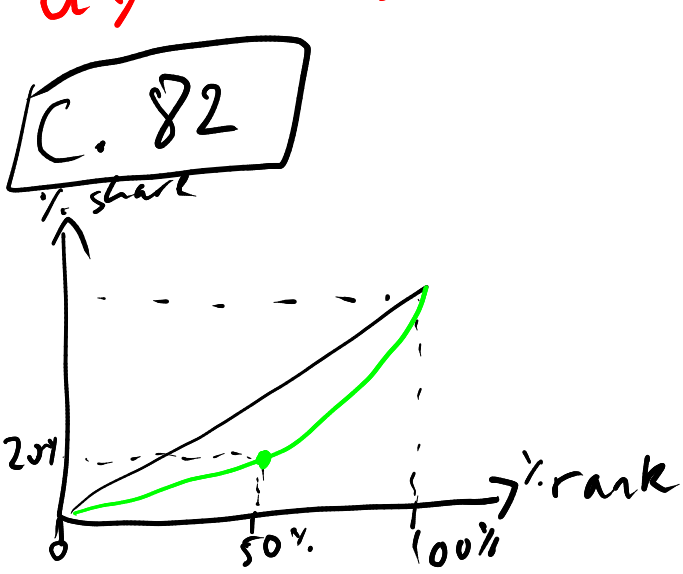
$$g(x) = \begin{cases} 0 & \text{if } x = 0 \\ \frac{1}{x} & \text{if } x > 0, \end{cases}$$

then $g \notin B([0,10], \mathbb{R})$, because g is unbounded.

If $h : \mathbb{R} \to \mathbb{R}$ and $h(x) = 0$ then $h \notin B([0,10], \mathbb{R})$ because it has the wrong domain.

Note: it's implied here that $d_Y = d_2$, but this need not be.

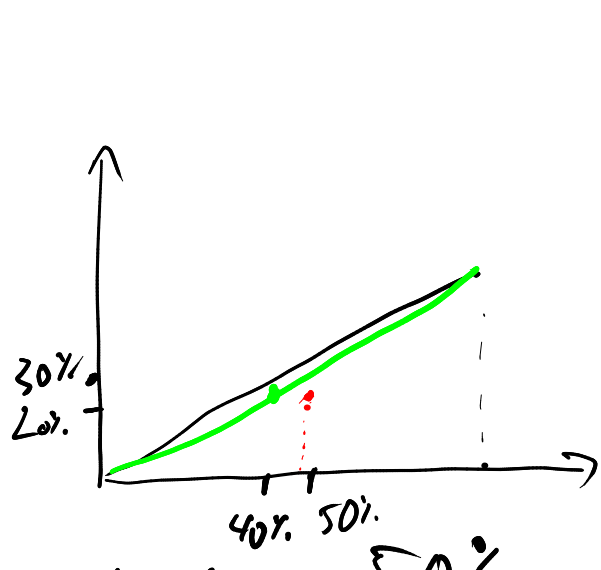
C. 82



tax = 1%

$F(0.5, 0.01) = 0.2$

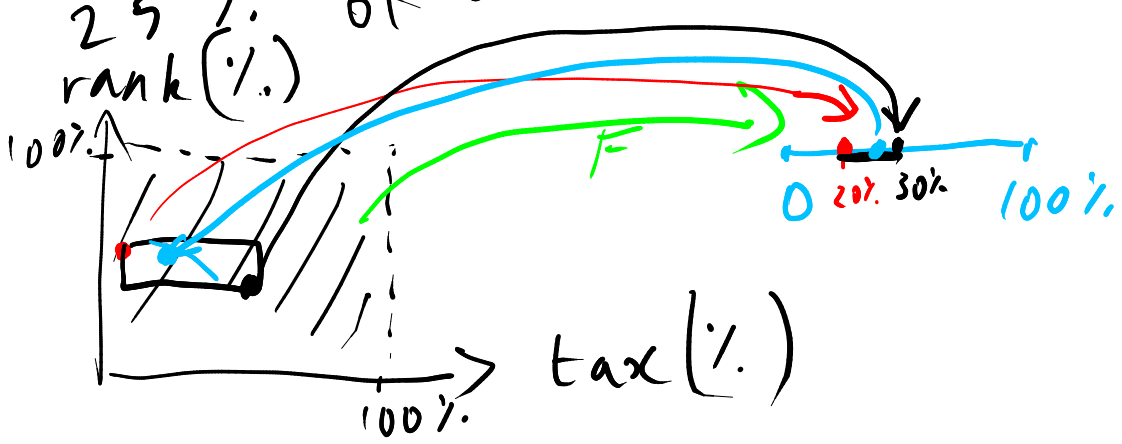
s: % rank, t: tax, % share



tax = 50%

$F(0.4, 0.5) = 0.3$

Prove there is some tax between 1% & 50%, and some rank between 40% - 50% s.t. they earn 25% of the income



Lipschitz