Exrcise 2B. Consider a function that relates tax revenues R, in billions of dollars, to the average tax rate t such that $R = 350t - 500t^2$.

(a) What tax rate(s) is consistent with raising tax revenues equal to \$60 billion?

(b) What tax rate(s) is consistent with raising tax revenues equal to \$61.25 billion?

(c) What tax rate is consistent with the maximum tax revenue?

a) $20 = 350t - 500t^2$

$t = 0.3$

b) $60.25 = 350t - 500t^2$

$t = 0.3052$

c) $R = -500t^2 + 350t$

$\frac{-b}{2a} = \frac{-350}{2(-500)} = \frac{7}{20}$

$R\left(\frac{7}{20}\right) = -500\left(\frac{7}{20}\right)^2 + 350\left(\frac{7}{20}\right)$

$= \frac{245}{4}$

$= 61.25$