

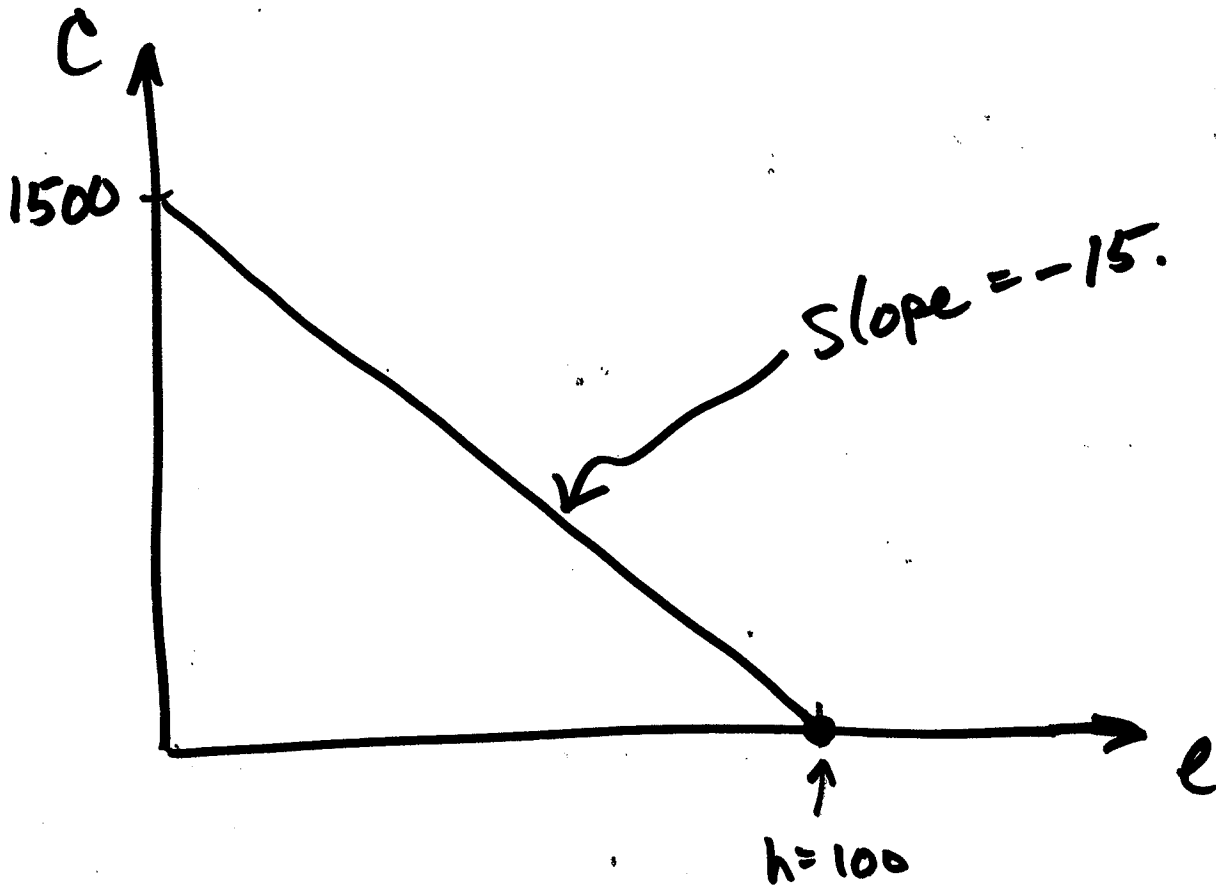
Quiz 3

1. Suppose the representative consumer's real wage is  $w=15$ ; dividends minus taxes equals zero,  $\pi-T=0$ ; and the consumer has time endowment of  $h=100$ . Plot the consumer's budget constraint. Label the axes and state what the slope and the intercepts of the budget line are.

The equation for the budget line

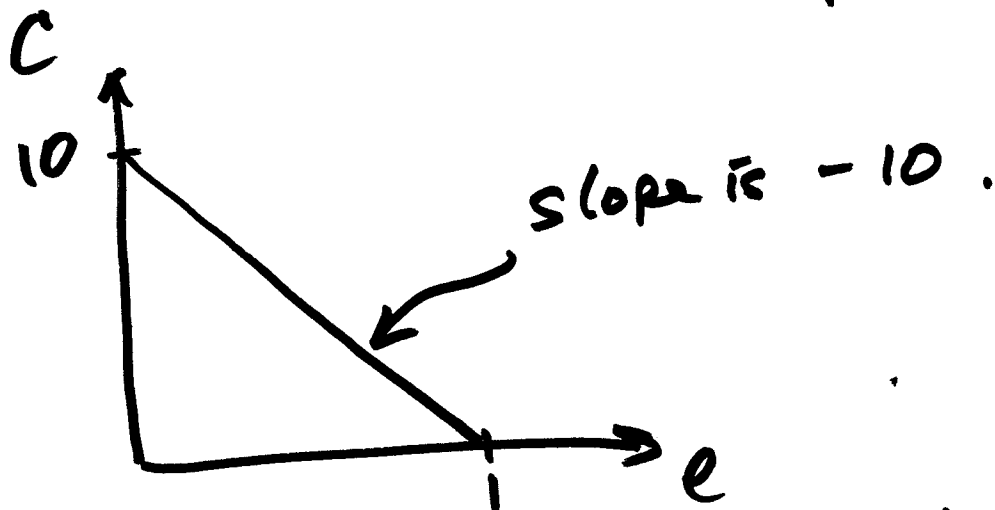
is

$$C = -15L + 15 \cdot 100$$
$$= -15L + 1500$$



2. Suppose that the consumer's utility function is  $u(l, C) = a \cdot l + b \cdot C$  (perfect substitutes) with  $a=1$  and  $b=10$ .
- Sketch a plot of an indifference curve for utility level  $u(l, C)=10$ . Label axes, and state what the slope and the intercepts of the indifference curve are.
  - Find the optimal consumption bundle for the household with the budget described in Problem 1.

a). The indifference curve is a straight line:  
 line:  $10 = a \cdot l + b \cdot C$   
 or  ~~$C = -\frac{a}{b}l + \frac{10}{b}$~~   $C = -\left(\frac{a}{b}\right)l + \frac{10}{a}$   
 $= -\frac{1}{10}l + 10$



b) These lines can never be tangent. The optimum occurs at a "corner":

The indiff curves are flatter, so optimum will occur at  $C = 1500, l = 0$ .

