Question 1

(a) He consumes

100 units of chocolate, and 100 units of ice cream.

(b) He consumes

0 units of chocolate, and 300 units of ice cream.

Question 2 At the optimal choice MRS $= x_B^2/x_A^2 = 1/9$. Therefore

the equation of the income offer curve is $3x_B = x_A$.

The equation of the budget line is $x_A + 9x_B = 180$. Substitution yields $12x_B = 180$. Therefore

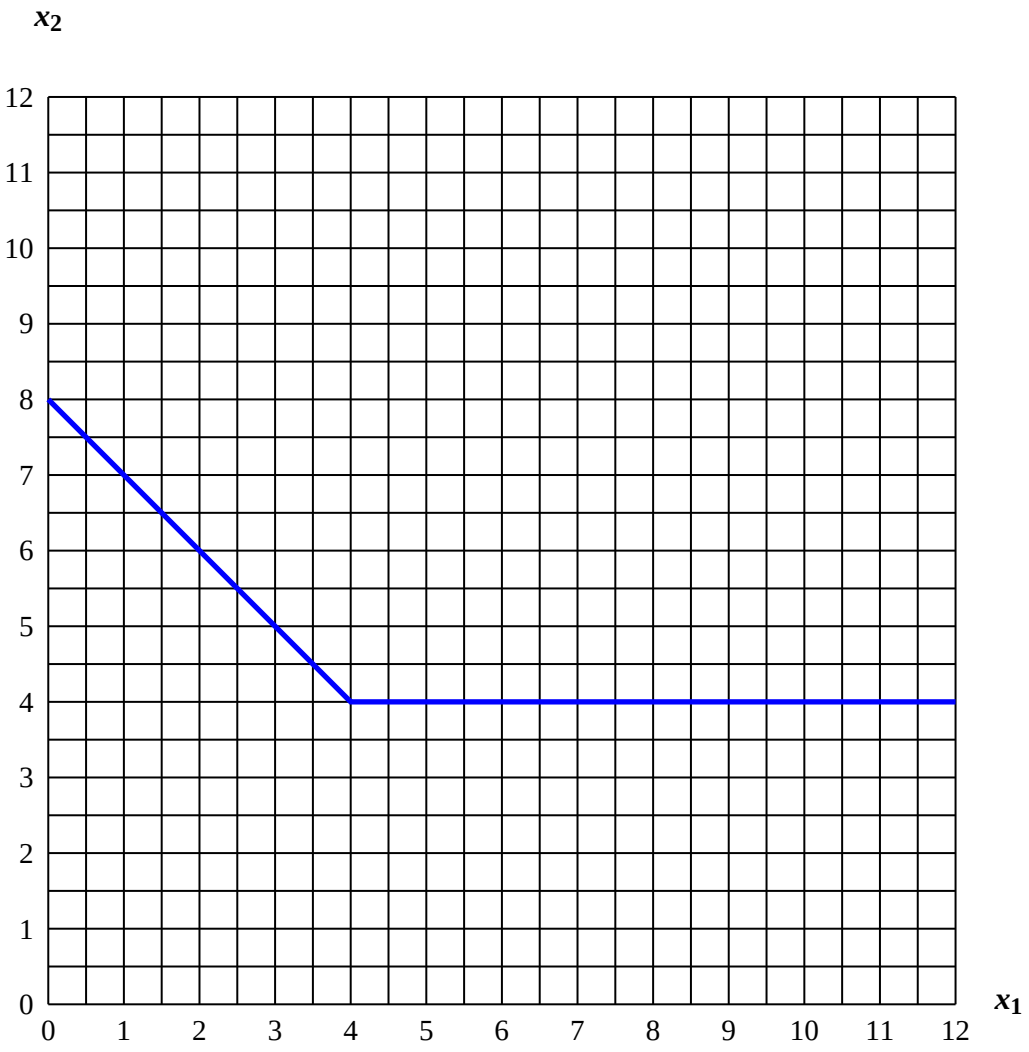
His optimal consumption choice is

$x_A = 45$, $x_B = 15$.

Question 3 If steak is on the horizontal, and eggs on the vertical axis, then Mr. Yellowhat's MRS is 7. Because he consumes a positive amount of each good $p_S/p_E = 7$. Thus, $p_S = 3.5$.

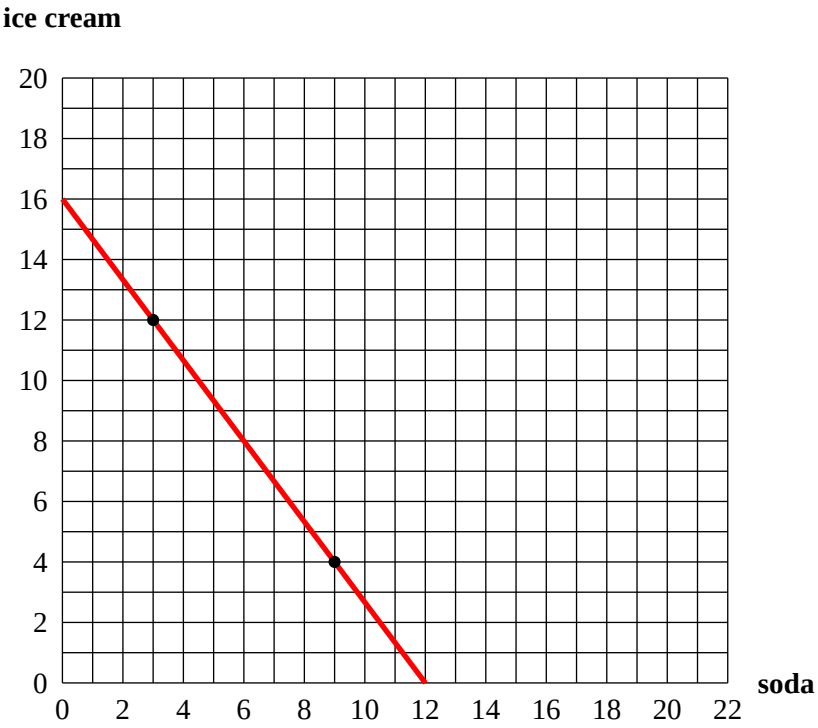
Then Mr. Yellowhat's income is $I = 38$.

Question 4



Question 5

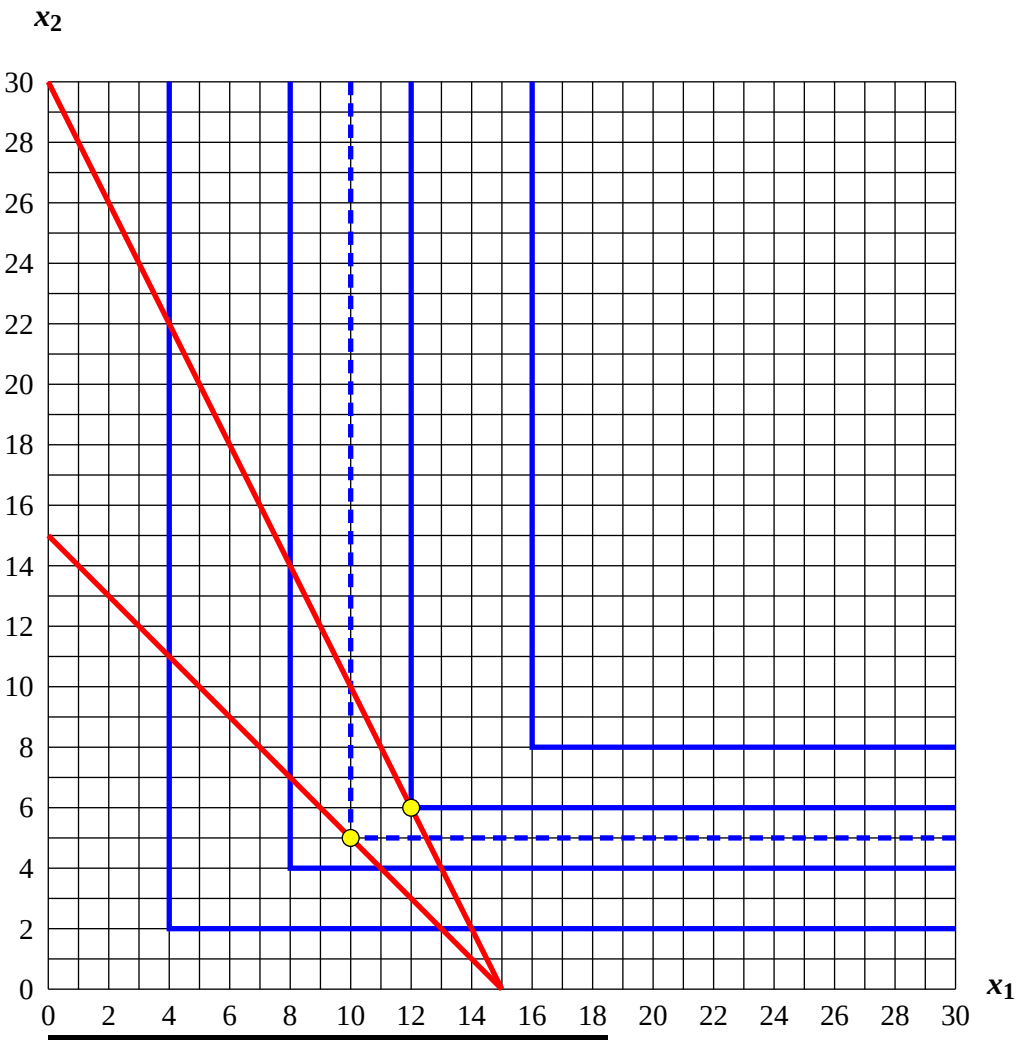
(a)



(b) Amy's budget line is given by

$$x_1 + \mathbf{0}.\mathbf{75}x_2 = \mathbf{12}.$$

Question 6

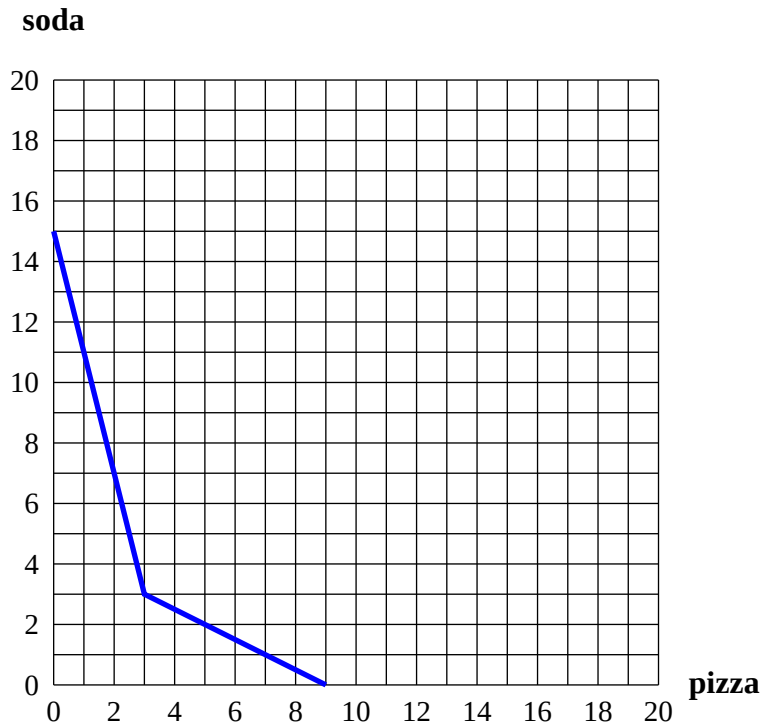


Demand of good 1 decreases by 2 units.

Demand of good 2 decreases by 1 units.

Question 7

(a)



(b) She consumes

21 units of pizza and 21 units of soda.

Question 8

(a) The **MRS** $= 4/\sqrt{t}$. At the optimal choice $2 = \sqrt{t}$.

the optimal $t = 4$.

He spends 8 Dollars on long distance calls.

(b) Now $4/\sqrt{t} = 0.5$.

the optimal $t = 64$.

He spends 52 Dollars on long distance calls.

(c) His consumption under the first plan is $(4, 292)$. His consumption under the second plan is $(64, 248)$. $u(4, 292) = 308$ and $u(64, 248) = 312$.

His utility from plan (a) is 308.

His utility from plan (b) is 312.

As a consequence he prefers **plan (b)**