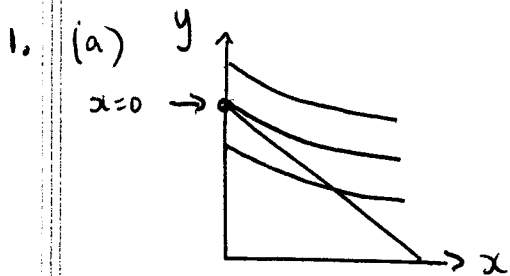
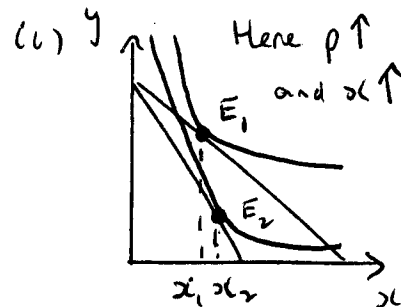
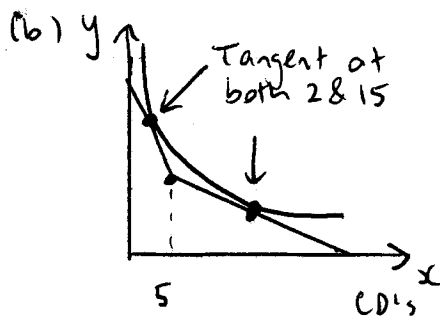


Versions A and B



Could instead draw corner where  $y=0$

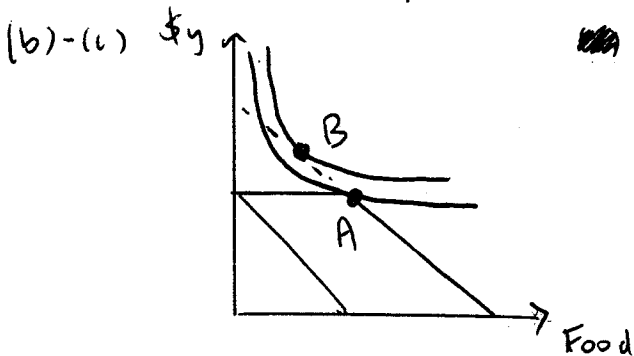


2. (a)  $MRS_{yx} = - \frac{dy}{dx} = - \frac{d(16/x^2)}{dx} = - \frac{-32}{x^3} = \frac{32}{x^3}$

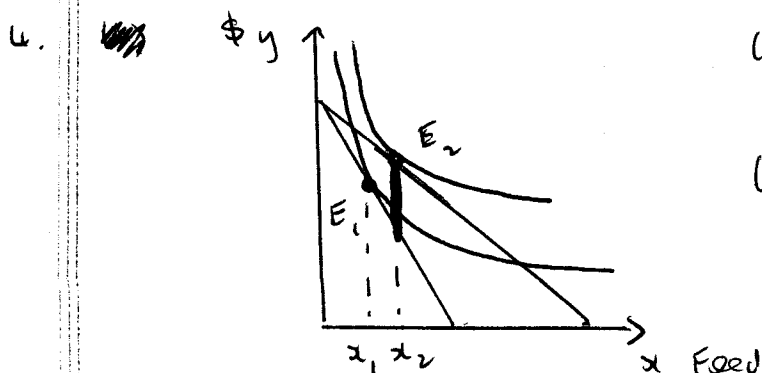
(b)  $MRS_{yx} = \frac{p_x}{p_y} \Rightarrow \frac{32}{x^3} = \frac{1}{2} \Rightarrow x^3 = 64 \Rightarrow x = 4$  Snickers bars

(c) When  $x=4$ ,  $y = 16/x^2 = 16/4^2 = 1$  Power Bar  
 Income needed =  $p_x x + p_y y = 1 \times 4 + 2 \times 1 = \underline{\underline{\$6}}$

3. (a) A good for which demand increases when price increases (or decreases when price decreases). This violates the law of demand.



A = Food voucher where consume exactly the voucher amount  
 B = Alternative where can take cash  
 Prefer B as on higher indiff. curve  
 John better off with \$100 in cash.



(a) Budget line swings out  
 $x$  increases from  $x_1$  to  $x_2$

(b) Subsidy cost = vertical distance between the two budget lines at  $x_2$  [The solid line | ]

(c) Subsidy cost exceeds EV,

Version A

$$5. (a) \epsilon = - \frac{dx/x}{dp/p} = - \frac{(22-24)/24}{(160-40)/40} = \frac{1/12}{1/2} = \frac{2}{12} = \frac{1}{6} = 0.1\bar{6}$$

(b) When  $p_y \uparrow$  by 1 unit,  $x \uparrow$  by 4 units.  
So substitutes as  $x \uparrow$  when  $p_y \uparrow$

$$(c) \epsilon = - \frac{dx/x}{dp/p} = - \frac{dx}{dp} \times \frac{p}{x} = (-4) \times \frac{8}{100 - 4 \times 8 + 4 \times 5 + 20 \times 10} = \frac{32}{288} = \frac{1}{9} = .11\bar{1}$$

Version B

$$5. (a) \epsilon = - \frac{dx/x}{dp/p} = - \frac{(22-23)/23}{(160-40)/40} = \frac{1/23}{1/2} = \frac{2}{23} = 0.087$$

(b) When  $p_y \uparrow$  by 1 unit,  $x \downarrow$  by 4 units.  
So complements as  $x \downarrow$  when  $p_y \uparrow$

$$(c) \epsilon = - \frac{dx/x}{dp/p} = - \frac{dx}{dp} \times \frac{p}{x} = (-4) \times \frac{8}{100 - 4 \times 8 - 4 \times 5 + 20 \times 10} = \frac{32}{248} = \frac{4}{31} = .013$$

Multiple Choice

Question	Version A	Version B
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1	b	b
---	---	---

2	a	b
---	---	---

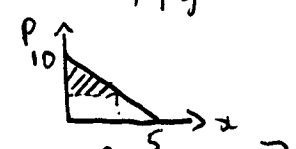
3	c	a
---	---	---

4	c	d
---	---	---

5	d	b
---	---	---

[ If  $MRS_{yx}$  increasing ~~we have~~  ]

[ Is  $MU_x/p_x$  equal to  $MU_y/p_y$ ? ]

[ CS is shaded area  ]

= 16 Version A or 9 version B

Out of 40

75<sup>th</sup> percentile 29

Median 27

25<sup>th</sup> percentile 21

A 30 or better

A- 30 " "

B+ 28 " "

B 26 " "

B- 24 " "

C+ 27.5 or better

C 21 " "

C- 20 " "

D+ 19 " "

D 18 " "

D- 17 " "