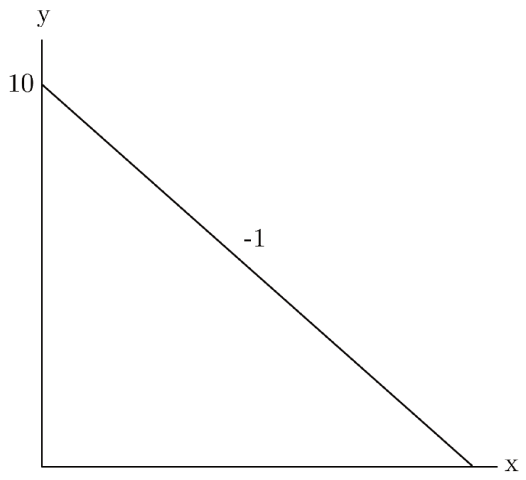
EXERCISES CHAPERS 1.

Chapter 1 Problems

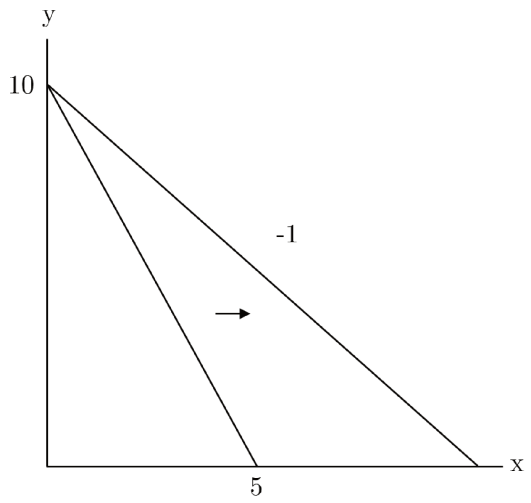
Exercise 1. List three bundles in the budget set $x_1 + x_2 \leq 5$, sketch the budget and plot these three bundles in the set.

Exercise 2. If a unit tax is imposed on x_1 what does this do to the trade-off between x_1 and x_2 along th budget line?

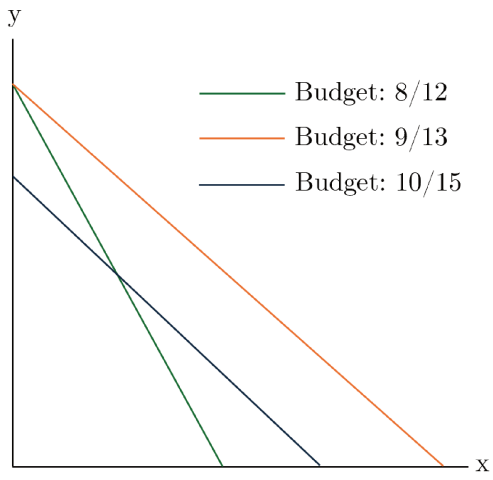
Exercise 3. Write the budget line associated with this sketch. You can assume the consumer has any income you would like.



Exercise 4. Explain what might be going on in this plot.



Exercise 5. Explained what happened between August and September.



Exercise 6. Assume income is $m = 10$ and prices $p_1 = 1$, $p_2 = 2$.

(1) Write down the budget equation.

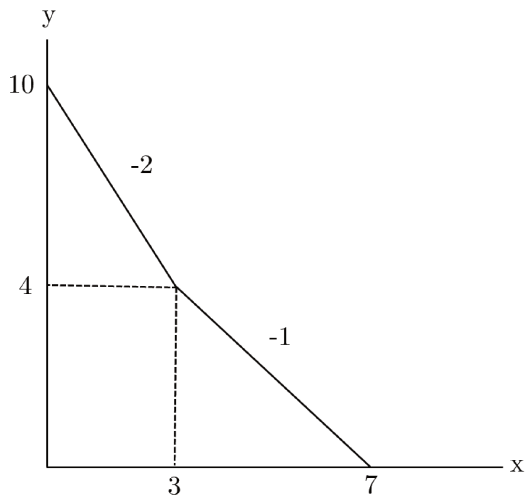
(2) Which of $(2, 3)$, $(1, 5)$, $(2, 4)$ in the budget set?

(3) Which of $(2, 3)$, $(1, 5)$, $(2, 4)$ is on the budget line?

(4) How much x_1 can the consumer afford if they only buy x_1? How about x_2?

(5) Plot the budget line, then demonstrate what happens when m increases to 20. Label the slope and endpoints of both lines.

Exercise 7. Provide a story about the budget pictured here.



Exercise 8. A consumer has income $m = 20$. Prices of goods are $p_1 = 1$ and $p_2 = 1$. A store starts a promotion. If you buy two units of x_1, you get two units of x_2 for free. *You can only use this deal once.* Draw the budget set.

Exercise 9. A hiker is camping at point $(0, 0)$ where both coordinates are in miles. They need to choose the next point (x_1, x_2) to camp. The distance between $(0, 0)$ and (x_1, x_2) is $\sqrt{x_1^2 + x_2^2}$. The hiker can walk up to ten miles in a day to find the best spot to camp next. Write down the budget set and then plot it.