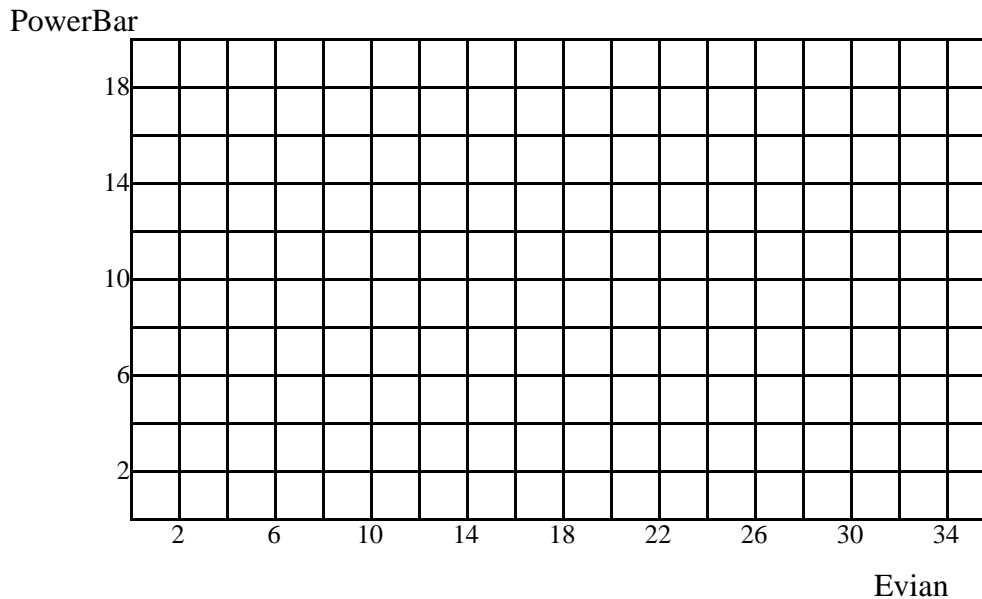


Problem Set 1 Due September 10

Ch.2 Budget Constraint

Problem 1: Mr. Slick has \$30 to spend on Evian and PowerBars. The price of a Powerbar is \$3, and the price of a bottle of Evian is \$1.

a) Draw a picture of Mr. Slick's budget line (measure Evian on the horizontal axis and PowerBars on the vertical axis):



b) How many PowerBars can he afford if he buys 6 bottles of Evian?

c) What is the largest number of PowerBars he can afford?

d) What is the slope of the budget line? (Be sure to include the sign)

e) Explain in plain English what this slope measures.

f) Using the price and income above write an equation for Mr. Slick's budget constraint (denote Evian by x_E , and PowerBars by x_P and use the prices given above).

g) Rearrange the equation of the budget line such that x_P as a function of x_E , i.e. $x_P = f(x_E)$

h) Illustrate on your graph how the budget line from question a) changes when the price of Evian increases to \$3 per bottle.

i) Illustrate on your graph above how the budget line from question a) changes when his income decreases to \$12.

Problem 2: Martha is preparing for exams in economics and sociology. She has time to read 40 pages in economics and 30 pages in sociology. In the same amount of time she could also read 30 pages of economics and 60 pages in sociology.

a) assuming that the number of pages per hour she can read of either subject does not depend on how she allocated her time, how many pages of sociology could she read if she decided to spend all of her time on sociology and none on economics? (Show your work)

b) how many pages of economics could she read if she decided to spend all of her time reading economics? (Show your work)

Problem 3: Kate likes Bagels and Coca-Cola. She has \$10 per week to spend on the two goods. Bagels cost \$1 each and Cokes cost \$0.50 per can.

a) Draw her budget line with Coke on the horizontal axis and bagels on the vertical axis.

b) Suppose Kate receives a coupon through the mail that will last all of next week. By using the coupon Kate will get a discount of 25 cents per can of Coke that she buys. The coupon is good for 8 cans of Coke. Kate has \$10 to spend on bagels and Coke during the next week. Draw her budget line.

c) While Kate no longer has a coupon for Coke, there is now a special deal at the bakery. For the upcoming week she can get two bagels for free for every four bagels that she buys. Draw her budget line.

