Solutions to problem set 1
(due Thursday, January 28th, before class)

Problem 1
Supply goes down, the price goes up.

Problem 2
Data

\[ p_1 = 2; p_2 = 5; m = 100 \]

a) \[ 2x_1 + 5x_2 \leq 100 \]

b) Maximal consumption of french fries \( x_1 = m/p_1 = 50 \)

c) Maximal consumption of beef jerky \( x_2 = m/p_2 = 20 \)

d) 

e) Slope \( -p_1/p_2 = -2/5 \) This is real price of french fries in terms of beef jerky: one portion of fries "costs" 2/5 of beef jerky.

f) New data

\[ p_1 = 2; p_2 = 10; m = 100 \]

The new relative price is \( -p_1/p_2 = -1/5 \) (fries are cheaper in real terms). The slope of the budget set gets smaller and the shift is not parallel.

g)
Data

\[ p_1 = 20; \quad p_2 = 1; \quad m = 2000 \]

a) real price of CD \( p_1/p_2 = 20/1 = 20 \)

b)

c) New effective price of CD is \( p_1 = (1 + 100\%) \times 20 = 40 \): New relative price is $40 bottles per CD.

d) Problem 4

a) 

b) 

c)
d) for a) is negative b) negative c) infinite

e)

**Problem 5**

a) monotone (but not strictly monotone), convex (but not strictly convex): note linear segments of indifference curves

b) not monotone, but convex and strictly convex