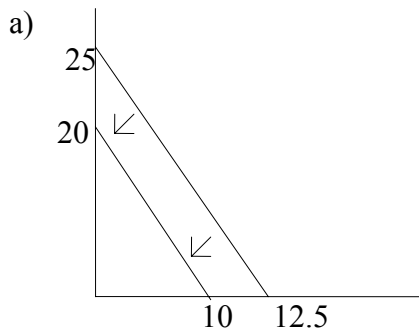
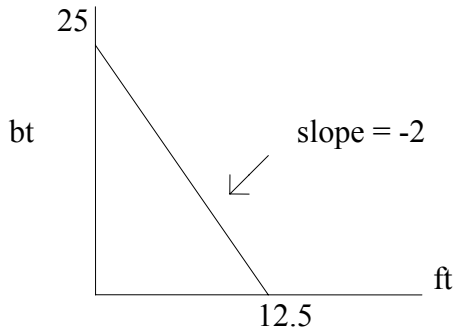
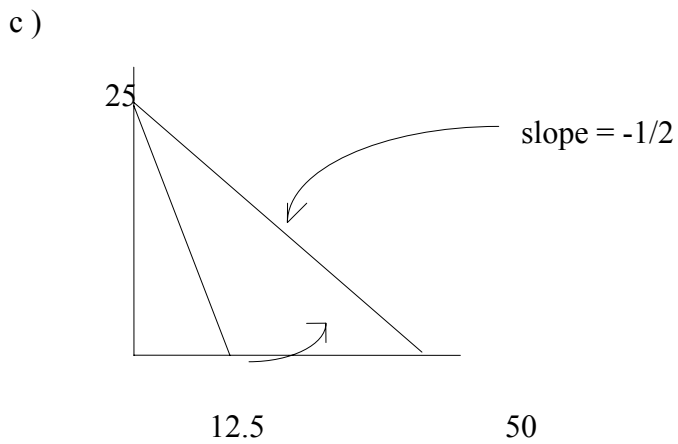
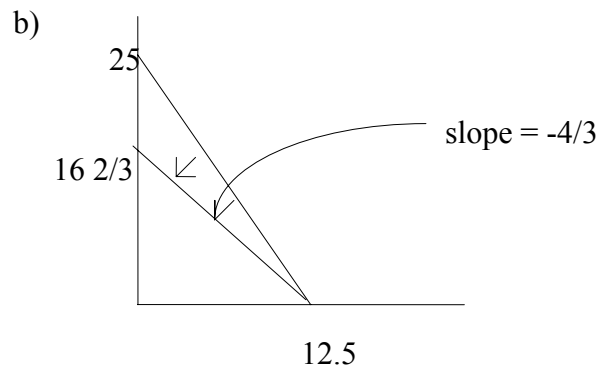


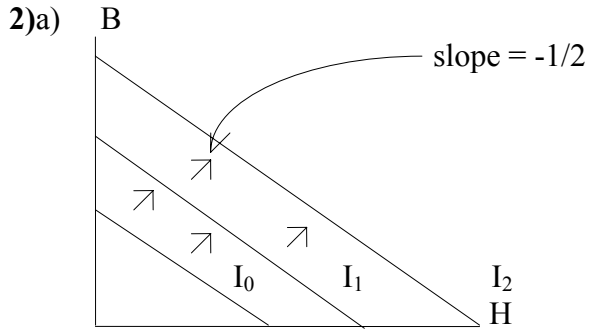
Problem Set #4 Solutions
Econ 2106H, J. L. Turner

1) Budget Constraint: $20f + 10b = 250$ (or, equivalently) $b = 25 - 2f$

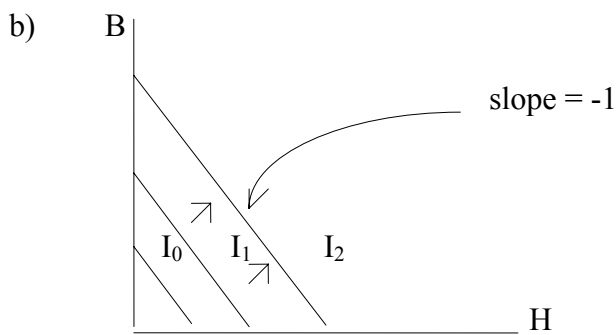


This is a parallel shift





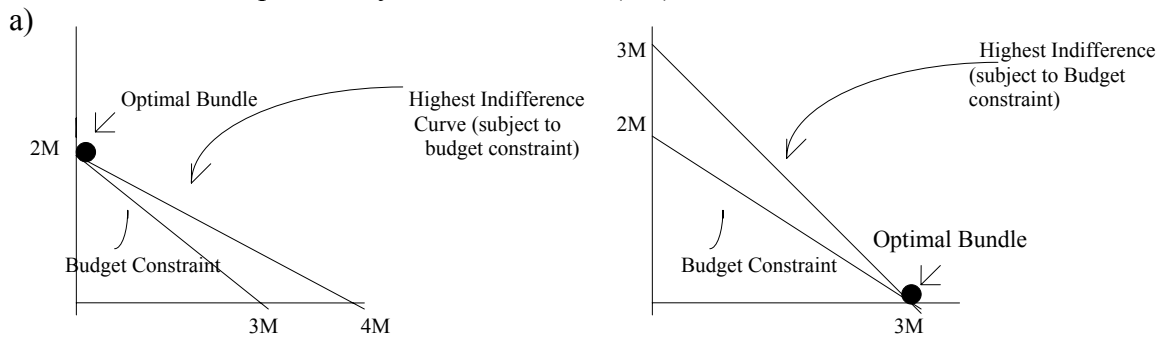
Note: lines should be parallel



Note: lines should be parallel

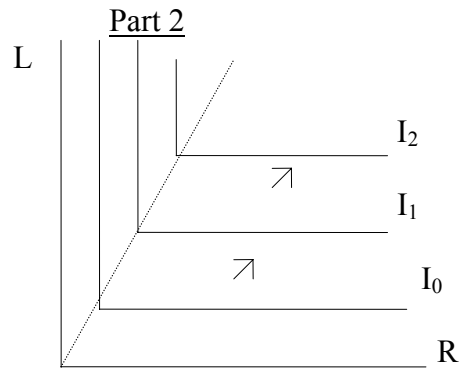
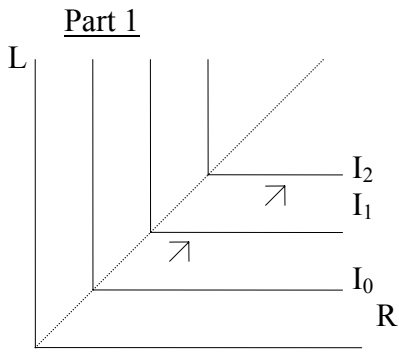
c) Goods that have indifference curves that look like this are called perfect substitutes.

3) Budget Constraint is: $1.5B + H = 3,000,000$
 or equivalently, $B = 2,000,000 - (2/3)H$



Thus, in a) the optimal bundle is 2 million pounds of bacon and no hamburger meat, and in b) the optimal bundle is 3 million pounds of hamburger meat and no bacon.. Note that the slope of the budget constraint is the same in both instances, and has a slope of $-2/3$.

4)

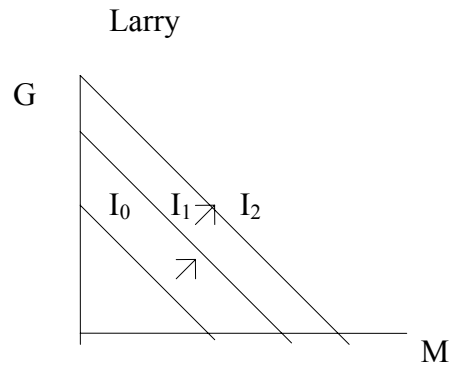
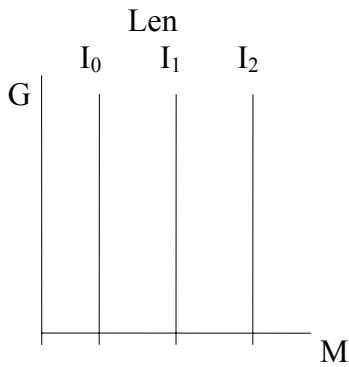


Note that the slope of the dashed line (which is NOT part of the indifference curve, but rather placed in the drawings for a sense of perspective) in part 1 is simply the 45-degree line, and the slope in part two is 2.

Indifference curves that look like these are called *perfect complements*.

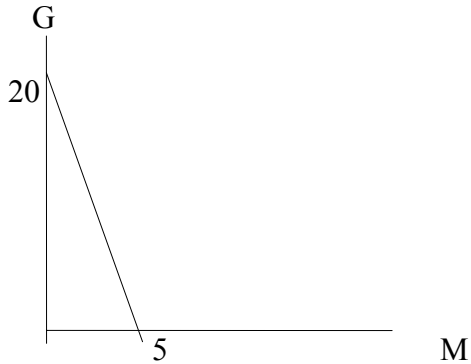
5) For all parts, let G be the number of green bags, and let M be the number of mixed bags.

a)



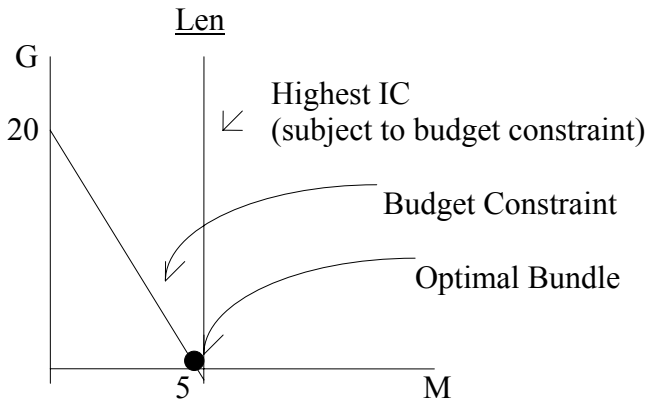
Note the slope of Larry's indifference curves is -1.

b)



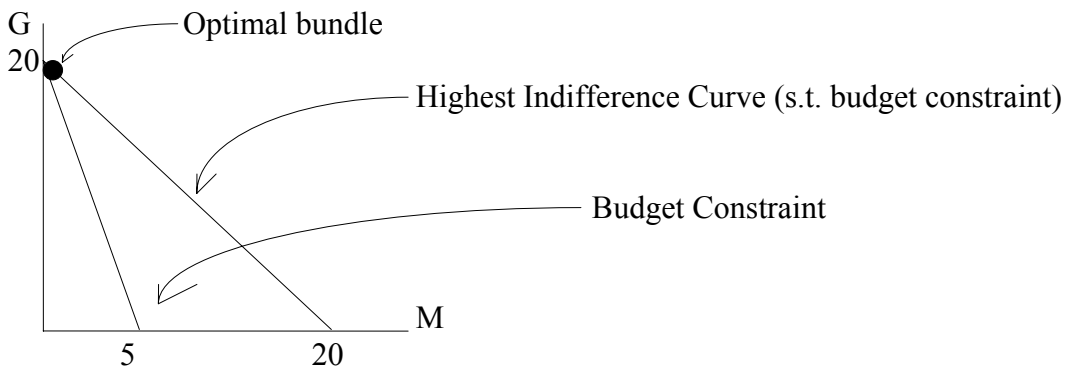
$G = 20 - 4M$ is the budget constraint.

c)



Then Len's optimal bundle is 5 mixed bags and no green bags.

Larry



Thus Larry's optimal bundle is 20 green bags and zero mixed bags.

d)

Len would still consume 5 mixed bags and no green bags. Larry would now also consume the same 5 mixed bags and no green bags.

