

Chapter 6. Quantitative

1. Sally has no other source of income except for her job at a coffee house that pays \$6.50/hour. Since she is such a good worker, her boss lets her choose how many hours she wants to work each week as long as it is between one and 20 hours.
 - (a) Graph her weekly budget constraint.
 - (b) How many hours must Sally work to cover her weekly rent and food expenses that total \$91/week?
 - (c) If Sally gets a raise to \$7.50/hour but chooses to still work only enough to cover her rent and food expenses, now how many hours must she work?
2. Consider a workers' compensation program that replaces 50% of a disabled worker's previous weekly salary up to a maximum of \$300/week for as long as the worker is out of work. As soon as the individual works even one hour, all benefits are taken away. Jim and Ted both worked for the same firm and were injured in the same accident. Both worked full time (40 hours/week) prior to the accident, with Jim earning \$20/hour and Ted earning \$10/hour.
 - (a) How much in weekly workers' compensation benefits is each worker entitled?
 - (b) What percentage of each worker's previous weekly salary is replaced under the income management program?
 - (c) Assuming both Jim and Ted are free to return to their previous jobs at their previous salaries when healthy, how many hours must each person work per week to replace the income they were receiving while collecting disability?
3. A government income maintenance program guarantees an annual income of \$6,000. Moreover, for each dollar earned by recipients, benefits are reduced by one dollar.
 - (a) What will be the size of the subsidy earned by a household that earns \$2,500 per year? What will be the household's total income?
 - (b) The government then alters the program. Now, individuals are still guaranteed an annual income of \$6,000, but benefits are reduced by 30 cents for each dollar earned. What will be the size of the subsidy earned by a household that earns \$2,500 per year? What will be the household's total income?
4. The following parameters are for the Earned Income Tax Credit in 2012 for non-married individuals (See Figure 6.17.):
 - (a) Above what income level is a woman with two or more children no longer affected by the EITC program?

- (b) Izabella is a single woman with two children who currently is working part-time, earning \$13,000 per year working, and taking advantage of her tax credit under the plan. How much tax credit is she presently receiving?
 - (c) Ann is a single woman with three children who currently is working part-time, earning \$30,000 per year working, and taking advantage of her tax credit under the plan. How much will her net income be after the tax credit?
5. John is a college student who works part-time at a campus restaurant. He is paid \$8/hour and has no non-labor income.
- (a) Graph John's budget constraint and label the utility-maximizing outcome if John opts to work 40 hours per week.
 - (b) Suppose John's parents decide to send him \$100/week. Graph John's new budget constraint.
 - (c) How many hours will John now have to work to maintain the same weekly income as in (a)?