Practice Quiz 8: Personal Taxes

1. Ernie earned $75,000 during 2012. He is subject to the following marginal tax rates:

Income	Marginal Tax Rate
from $0 to $8,700	10%
over $8,700 to $35,350	15%
over $35,350 to $85,650	25%
over $85,650 to $178,650	28%
over $178,650 to $388,350	33%
over $388,350	35%

Ernie qualifies for a $3,800 personal exemption and may elect to take a $5,950 standard deduction. In 2012, he paid $3,000 in student loan interest and made a $1,000 charitable contribution to his alma mater, both of which are tax deductible expenses (assume neither are above-the-line deductions). How much must Ernie pay in taxes in 2012? What is his effective tax rate?

2. At the beginning of the year, Mr. and Mrs. Jacobson have a current mortgage balance of $120,000, on which they pay a 6% APR. They itemize their deductions, and would do so whether or not they had mortgage. They are subject to a tax rate of 25%. How much will the mortgage interest deduction save the Jacobsons during the year? What is the after-tax interest rate on their mortgage? (For simplicity, assume the mortgage payment is made annually.)

3. Amy and Joe both invest $5,000 in the stock market. Amy invests passively and holds onto her stocks for 30 years. Joe actively trades, turning over his portfolio yearly. Consequently, Amy is subjected to a deferred long-term capital gains tax of 15%, while Joe is subject to an annual short-term capital gains tax at his marginal income tax rate, which is 30%. If both earn an annual return of 8% on their investment, how much will each have in 30 years, after tax? What will be their after-tax returns? What pre-tax return must Joe achieve through active trading to match Amy's wealth in 30 years?

4. Jason wishes to invest $3,000 (in *after-tax* dollars) for retirement. He will do so in a stock index fund and expects an average annual return of 7%. Compare the after-tax value of Jason's contribution in 25 years if he (a) invests outside of any tax-advantaged account, (b) in a Roth IRA, and (c) in a traditional IRA. Assume a long-term capital gains tax of 15% and an income tax rate of 25% both today and when Jason withdraws in 25 years. Discuss how the after-tax value of an investment in a Roth IRA versus traditional IRA would change if Jason's tax rate in retirement is lower than it is today.