Practice Quiz 8: Personal Taxes

1. It is the year 2018. Ernie earned $65,000 during that year. He is subject to the following marginal tax rates:

Income	Marginal Tax Rates
$0 - $9,525	**10%**
$9,526 - $38,700	**12%**
$38,701 - $82,500	**22%**
$82,501 - $157,500	**24%**
$157,501 - $200,000	**32%**
$200,001 - $500,000	**35%**
Over $500,000	**37%**

Ernie qualifies for a $12,000 standard deduction. In 2018, he paid $2,500 in student loan interest and made a $2,000 charitable contribution to his alma mater, both of which are tax deductible expenses. Note that the $2,500 student loan interest is an **above-the-line deduction**, meaning he can claim this deduction to obtain the adjusted gross income, but he cannot claim the charitable contribution deduction and standard deduction, as the charitable deduction is a **below-the-line deduction**. He can choose to itemize the charitable deduction or claim the standard deduction. How much must Ernie pay in taxes in 2018? 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 24%. 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 32%. 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 30 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 30 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.