

## Practice Quiz 4: Saving and Investing

1. Sally is an avid corporate bond buyer and is looking to purchase some bonds in the secondary market through her broker. She's currently considering an issue from Acme Inc. that promises to pay quarterly coupons of 8% for the next ten years. Interest rates in the economy have fallen since the issue, but the demand for Acme's products has fallen recently and Sally considers them to now be at a higher risk of defaulting. On net, Sally, requires a return of 12% on the bond issue. Will she buy the bond if it is currently selling at a premium? Calculate the price at which Sally will value the bond. If the bond is selling at \$850 per \$1,000 par, will Sally buy the bond?
2. The bond of Acme Inc. in the problem above that pays quarterly coupons of 8% for the next ten years is indeed currently selling at \$850 per \$1,000 par. Is the bond selling at par, a discount, or a premium? Without performing any calculations, determine whether the current yield-to-maturity on this issue is above or below the coupon rate of 8%. Calculate the yield-to-maturity of this issue.
3. Two years ago, Allison started her own dry-cleaning business. She put up \$25,000 of her own savings, collected investments totaling \$20,000 from friends and family, and financed the remainder with a bank loan. At incorporation, she split ownership of the company into 4,500 shares. How many shares did Allison receive and how many went to her friends and family? This year, Allison's dry-cleaning business generated net profits of \$7,500. She reinvests \$1,875 of these profits and distributes the remaining \$5,625 as dividends. What is the dividend per share? If Allison has neither sold nor purchased any new shares over the past two years, how much will she receive in dividends?
4. Last year, Acme Inc. paid dividends of \$20 per share. Value the company using a discount rate of 15% assuming constant dividends. Value the company using the same discount rate of 15% assuming that dividends grow by 4% per year.
5. Last year, Bubble Co. earned profits of \$10 per share, but reinvested all of those profits. Analysts from a popular brokerage conclude that Bubble Co. can earn an average annualized return of 20% on its investment for the next ten years. Using a discount rate of 15%, price Bubble Co. stock assuming no dividends over the next ten years, during which profits grow by 20% per year, and constant dividends equal to all of the company's profits thereafter. Compare this to the price per share if, instead of reinvesting its profits, Bubble Co. paid out constant dividends equal to today's profits of \$10 per share using a discount rate of 15%. What if instead the reinvested profits had grown at 10% per year?