Financial Algebra Chap 2 Day 7 **Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Compound Interest Practice**

**2.** Jimmy invests $4,000 in an account that pays 5% annual interest, compounded semiannually. What is his balance, to the nearest cent, at the end of 10 years?

**3.** On Olga’s 16th birthday, her uncle invested $2,000 in an account that was locked into a 4.75% interest rate, compounded monthly. How much will Olga have in the account when she turns 18? Round to the nearest cent.

**4.** Samantha deposits $1,500 into the Park Street Bank. The account pays 4.12% annual interest, compounded daily. To the nearest cent, how much is in the account at the end of three non-leap years?

**8.** How much more does $1,000 earn in eight years, compounded daily at 5%, than $1,000 over eight years at 5%, compounded semiannually?

**12.** Investigate the difference between compounding annually and simple interest for parts a–j.

**a.** Find the simple interest for a one-year CD for $5,000 at a 6% interest rate.

**b.** Find the interest for a one-year CD for $5,000 at an interest rate of 6%, compounded annually.

**c.** Compare the results from parts a and b.

**d.** Find the simple interest for a three-year CD for $5,000 at an interest rate of 6%.

**e.** Find the interest for a three-year CD for $5,000 at an interest rate of 6%, compounded annually.

**f.** Compare the results from parts d and e.

**g.** Find the simple interest for a six-year CD for $5,000 at an interest rate of 4%.

**h.** Find the interest for a six-year CD for $5,000 at an interest rate of 4%, compounded annually.

**i.** Compare the results from parts g and h.

**j.** Is interest compounded annually the same as simple interest? Explain

**14.** Island Bank is advertising a special 6.55% APR for CDs. Manny takes out a one-year CD for $40,000. The interest is compounded daily. Find the annual percentage yield for Manny’s account to the nearest hundredth of a percent.

**16.** An elite private college receives large donations from successful alumni. The account that holds these donations has $955,000,000 currently.

**a.** How much would the account earn in one year of simple interest at a rate of 5.33%?

**b.** How much would the account earn in one year at 5.33% if the interest was compounded daily? Round to the nearest cent.

**c.** How much more interest is earned by compounded daily as compared to simple interest?

**d.** If the money is used to pay full scholarships, and the price of tuition is $61,000 per year to attend, how many more students can receive full four-year scholarships if the interest was compounded daily rather than using simple interest?