12. Austin deposits $2,250 into a one-year CD at an interest rate of 5.3%, compounded daily.
    a. What is the ending balance after the year?
    b. How much interest did the account earn during the year?
    c. What is the annual percentage yield? Round to the nearest hundredth of a percent.

13. Find the interest earned on a $25,000 deposit for $2\frac{1}{2}$ years at 4.7% interest, compounded continuously.

14. Examine each of the following situations, labeled I, II, and III. Identify which of the three cases below applies. Do not solve the problems.
    I. future value of a single deposit investment
    II. future value of a periodic deposit investment
    III. present value of a periodic deposit investment
    a. You want to save for a new car that you will buy when you graduate college in 4 years. How much will you be able to afford if you deposit $1,000 per quarter in an account that compounds interest at a rate of 4.1% quarterly?
    b. You deposit $3,000 into an account that yields 3.22% interest compounded semiannually. How much will you have in the account in 5 years?
    c. You want to put a $40,000 down payment on a store front for a new business that you plan on opening in 5 years. How much should you deposit monthly into an account with an APR of 3.75%, compounded monthly?

15. Santos deposited $1,800 in an account that yields 2.7% interest, compounded semiannually. How much is in the account after 54 months?

16. Stephanie signed up for a direct deposit transfer into her savings account from her checking account. Every month $150 is withdrawn from her checking account. The interest in this account is at 2.6% compounded monthly. How much will be in the account at the end of $6\frac{1}{2}$ years?

17. Jazmine needs $30,000 to pay off a loan at the end of 5 years. How much must she deposit monthly into a savings account that yields 3% interest, compounded monthly?

18. Use a table of increasing values of x to find each of the following limits. If no limit exists, say the limit is undefined.
    a. $\lim\limits_{x \to \infty} f(x)$ if $f(x) = \dfrac{9x - 1}{3x - 5}$

    b. $\lim\limits_{x \to \infty} g(x)$ if $g(x) = \dfrac{3x^2 + 9x}{4x + 1}$

    c. $\lim\limits_{x \to \infty} h(x)$ if $h(x) = \dfrac{7x}{x^2 - 41}$

19. Tom wants to have $50,000 saved sometime in the future. How much must he deposit every month into an account that pays 2.8% interest, compounded monthly. Use a graphing calculator to graph the present value function.