HW: Pages 324-326: 7, 11, 13, 33, 35, 39, 43, 49;

Pages 315-316: 30, 35, 42, 53, 66, 82, 88

Pages 324-326:

In Problems 7–14, find the amount that results from each investment.

7. $100 invested at 4% compounded quarterly after a period of 2 years

11. $600 invested at 5% compounded daily after a period of 3 years

13. $1000 invested at 11% compounded continuously after a period of 2 years

33. What rate of interest compounded annually is required to triple an investment in 5 years?

35. (a) How long does it take for an investment to double in value if it is invested at 8% compounded monthly?
(b) How long does it take if the interest is compounded continuously?

39. Time Required to Reach a Goal If Tanisha has $100 to invest at 8% per annum compounded monthly, how long will it be before she has $150? If the compounding is continuous, how long will it be?

43. Price Appreciation of Homes What will a $90,000 condominium cost 5 years from now if the price appreciation for condos over that period averages 3% compounded annually?

49. Comparing Savings Plans Jim places $1000 in a bank account that pays 5.6% compounded continuously. After 1 year, will he have enough money to buy a computer system that costs $1060? If another bank will pay Jim 5.9% compounded monthly, is this a better deal?

Pages 315-316:

Skill Building

In Problems 5–32, solve each logarithmic equation. Express irrational solutions in exact form and as a decimal rounded to three decimal places. Verify your results using a graphing utility.

30. $\log_4(x^2 - 9) - \log_4(x + 3) = 3$

In Problems 33–60, solve each exponential equation. Express irrational solutions in exact form and as a decimal rounded to three decimal places. Verify your results using a graphing utility.

35. $2^x = 10$

42. $2^{x+1} = 5^{1-2x}$

53. $16^x + 4^{x+1} - 3 = 0$

In Problems 61–74, use a graphing utility to solve each equation. Express your answer rounded to two decimal places.

66. $e^x = x^3$

In Problems 75–86, solve each equation. Express irrational solutions in exact form and as a decimal rounded to three decimal places.

82. $\dfrac{e^x + e^{-x}}{2} = 3$

88. $f(x) = \log_3(x + 5)$ and $g(x) = \log_3(x - 1)$.
(a) Solve $f(x) = 2$. What point is on the graph of f?
(b) Solve $g(x) = 3$. What point is on the graph of g?
(c) Solve $f(x) = g(x)$. Do the graphs of f and g intersect? If so, where?
(d) Solve $(f + g)(x) = 3$.
(e) Solve $(f - g)(x) = 2$.