

Handout # 4 Prepared by Mohammad Madih
Sections 5.1, 5.2, 6.1 and 6.2 Additional Problems

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1. Evaluate the following:

- a. $(32)^{\frac{-3}{5}} (125)^{\frac{5}{3}}$
- b. $\log 1000 - 10 \log \sqrt{100}$
- c. $\log_{\sqrt{10}} 10^4$
- d. $\log_2 \frac{1}{256}$
- e. $\frac{\log_a 1024}{\log_a 625}$

2. Solve for x.

- a. $(x+3)^{\frac{3}{4}} = 64$
- b. $(x+2)^{\frac{2}{5}} = 15$
- c. $e^{2x} = 10$
- d. $e^{(\ln 0.7)x} = 0.1$
- e. $\ln x + \ln(2x-1) = 0$
- f. $\log_2 x - \log_2(x-8) = 3$
- g. $\log_2 \sqrt{x} = 3$
- h. $\log_2 4 + \log_2(x-1) = 1$

3. If \$3600 is invested for 42 months at a simple interest rate of 5.5%

- a. How much interest will be earned?
- b. What is the future value of the investment after 42 months?
- c. How long does it take the investment to be worth \$7200

4. Find the future amount for \$P invested at 2.5% simple interest for 72 months.

5. If \$15000 is invested at an annual rate of interest of 4.8%, What is the amount after 10 years if the compounding take place compounding

- a. Annually
- b. Semiannually
- c. Quarterly
- d. Monthly
- e. Continuously

6. You have \$28500 for investment.

- a. What is your future value if you invest this money for 6 years at an annual rate of 10.5% compounded quarterly?
- b. How long will it take your money to grow to \$38000 in account paying 7.5% compounded continuously?

7. How long would it take an investment to double if it is invested at
 - a. 4.8% simple interest?
 - b. 4.8% compounded annually.
 - c. 4.8% compounded quarterly.
 - d. 4.8% compounded continuously.
8. What is the present value for \$6500 payable in 4 years at 12% interest compounded semiannually?
9. How long will it take for \$5500 to grow to \$40300 at an interest rate of 4.8% compounded continuously
10. What annual rate of interest you seek if you want to double your investment in 6 years, if the amount is:
 - a. Compounded continuously
 - b. Compounded monthly.