Answer as a PERCENT:

6.6 In the three problems below, you may write your answer in terms of exponents and/or logarithms.

(a) Sum Alex deposits \$1200 into an investment account earning interest at an annual rate of 8% compounded quarterly. How much will his account have after 5 years?

(b) Sum Maria deposits \$2000 into a bank account earning interest at an annual rate of 7% compounded continuously. How long will it take for her account to grow to \$3000?

(c) Sum Felix wants to buy a new high-def TV that costs \$2000. How much does he have to invest now to have \$2000 in three years, if his investment earns 8% compounded annually?

Answer with units:

6.8 Assume that the yearly rate of price inflation for housing in the the next ten years is

3.5% and assume that this is compounded annually. A house costing $780,000 today will cost more in ten year. How much will it cost in ten years?

6.9 A bank offers 2.0% interest compounded quarterly. What is the equivalent annual simple interest?

6.10 What is the present value of a cash flow of $4000 per year if the annual rate of interest is 5%? You should assume for this problem that interest is compounded annually.

7.16 Let $f(x) = x^2 + 2$

(a) Find $f(x+h)$.

(b) Find $f(x+h) - f(x)$.

(c) Find $\dfrac{f(x+h) - f(x)}{h}$.

(d) Evaluate $\lim\limits_{h \to 0} \dfrac{f(x+h) - f(x)}{h}$.

9.7 Use the rules to find the derivatives of the following functions at the specified values.

(a) $f(x) = .02x^3$ at $x = 2$.

(b) $f(x) = .12x^{1/2}$ at $x = 3$.

(c) $f(x) = .01x$ at $x = 4$.

(d) $f(x) = 1.3x^{-1}$ at $x = 2$.

9.8 Use the rules to find the derivatives of the following functions at the specified values.

(a) $f(x) = -.02x^2 + 5x - 1$ at $x = 2$.

(b) $f(x) = -.12x^2 + 30x - 1200$ at $x = 3$.

(b) What is the (instantaneous) [illegible]

9.13 The revenue from the sale of x high end cameras is given by

$$R(x) = 1000x - 2x^2.$$

(a) Sum What is the change in revenue if production is changed from $x = 10$ to $x = 11$ cellphone towers?

(b) What is the (instantaneous) rate of change in revenue at $x = 10$?

9.14 Let $g(x) = x^3 + 2x + 5$. Find an equation for the line tangent to the graph of $g(x)$ at the point $(0, g(0))$.