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Description

Section 5.2 - Compound Interest

Instructions

Please work all homework questions and clearly label / place your answers in the boxes (or parenthesis) provided. If you have questions, please feel free to email me at Joshua.Patterson@tamuc.edu

1. Question Details

JModd7 5.2.001. [1634203]

Find the periodic rate that corresponds to the given compound rate, if the rate is compounded as follows. (Round your answers to eight decimal places.)

17%

(a) quarterly

(b) monthly

(c) daily

(d) biweekly (every two weeks)

(e) semimonthly (twice a month)

2. Question Details

JModd7 5.2.008. [1634221]

Find the number of periods that corresponds to the given time span, if a period is a quarter of a year, a month, and a day. (Ignore leap years.)

$3\frac{1}{4}$ years

(a) a quarter of a year

 quarters

(b) a month

 months

(c) a day

 days

3. Question Details

JModd7 5.2.009. [1634242]

Find the number of periods that corresponds to the given time span, if a period is a quarter of a year, a month, and a day. (Ignore leap years.)

35 years

(a) a quarter of a year

 quarters

(b) a month

months

(c) a day

days

4. Question Details

JModd7 5.2.011.CMI. [1634219]

Consider the following investment. (Round your answers to the nearest cent.)

\$3,000 at **7%** compounded annually for **12** years

(a) Find the future value of the given amount.

\$

(b) Interpret the future value of the given amount.

After **12** years, the investment is worth \$.

5. Question Details

JModd7 5.2.013.CMI. [1634208]

Consider the following investment. (Round your answers to the nearest cent.)

\$5,800 at $6\frac{3}{4}\%$ compounded quarterly for $9\frac{1}{2}$ years

(a) Find the future value of the given amount.

\$

(b) Interpret the future value of the given amount.

After $9\frac{1}{2}$ years, the investment is worth \$.

6. Question Details

JModd7 5.2.017. [1634241]

Consider the following nominal rate. (Round your answers to two decimal places.)

7% compounded monthly

(a) Find the annual yield corresponding to the given nominal rate.

%

(b) Interpret the annual yield corresponding to the given nominal rate.

The given compound rate is equivalent to % simple interest.

7. Question Details

JModd7 5.2.020. [1634228]

Consider the given nominal rate. (Round your answers to two decimal places.)

$14\frac{5}{8}\%$ compounded daily

(a) Find the annual yield corresponding to the given nominal rate.

%

(b) Interpret the annual yield corresponding to the given nominal rate.

The given compound rate is equivalent to % simple interest.

Find and interpret the annual yield corresponding to the given nominal rate. (Round your answers to two decimal places.)

10%

(a) compounded quarterly

The given compound rate is equivalent to % simple interest.

(b) compounded monthly

The given compound rate is equivalent to % simple interest.

(c) compounded daily

The given compound rate is equivalent to % simple interest.

Consider the following future value. (Round your answers to the nearest cent.)

\$2,000 at 8% compounded annually for 9 years

(a) Find the present value that will generate the given future value.

\$

(b) Interpret the present value.

One would have to invest \$ now to have the future value in the given time.

Consider the following future value. (Round your answers to the nearest cent.)

\$4,481 at $10\frac{3}{4}\%$ compounded quarterly for 4 years

(a) Find the present value that will generate the given future value.

\$

(b) Interpret the present value.

One would have to invest \$ now to have the future value in the given time.

An **Individual Retirement Account (IRA)** is an account in which the saver does not pay income tax on the amount deposited but is not allowed to withdraw the money until retirement. (The saver pays income tax at that point, but his or her tax bracket is much lower then.)

Marlene Silva wishes to have an IRA that will be worth \$100,000 when she retires at age 65. (Round your answers to the nearest cent.)

(a) How much must she deposit at age 33 at $8\frac{3}{8}\%$ compounded daily?

\$

(b) If, at age 65, she arranges for the monthly interest to be sent to her, how much will she receive each thirty-day month?

\$