

The principal represents an amount of money deposited in a savings account subject to compound interest at the given rate.

Principal	Rate	Compounded	Time
\$5000	7%	annually	2 years

- A. Find how much money there will be in the account after the given number of years.
B. Find the interest earned.

A. The amount of money in the account after 2 years is \$ 5724.50 .
(Round to the nearest hundredth as needed.)

B. The amount of interest earned is \$ 724.50 .
(Round to the nearest hundredth as needed.)

The principal represents an amount of money deposited in a savings account subject to compound interest at the given rate.

Principal	Rate	Compounded	Time
\$10,000	5.5%	daily	17 years

- A. Find how much money there will be in the account after the given number of years. (Assume 360 days in a year.)
B. Find the interest earned.

A. The amount of money in the account after 17 years is \$ 25470.32 .
(Round to the nearest hundredth as needed.)

B. The amount of interest earned is \$ 15470.32 .
(Round to the nearest hundredth as needed.)

Find the accumulated value of an investment of \$20,000 for 5 years at an interest rate of 5% if the money is **a.** compounded semiannually; **b.** compounded quarterly; **c.** compounded monthly **d.** compounded continuously. Round answers to the nearest cent.

- a. What is the accumulated value if the money is compounded semiannually?

\$ 25601.69 (Round your answer to the nearest cent.)

- b. What is the accumulated value if the money is compounded quarterly?

\$ 25640.74 (Round your answer to the nearest cent.)

- c. What is the accumulated value if the money is compounded monthly?

\$ 25667.17 (Round your answer to the nearest cent.)

- d. What is the accumulated value if the money is compounded continuously?

\$ 25680.51 (Round your answer to the nearest cent.)

At the time of her grandson's birth, a grandmother deposits \$15,000 in an account that pays 5% compounded monthly. What will be the value of the account at the child's twenty-first birthday, assuming that no other deposits or withdrawals are made during this period?

The value of the account will be \$ 42771 .
(Round to the nearest dollar as needed.)

How much money should be deposited today in an account that earns 6% compounded semiannually so that it will accumulate to \$13,000 in three years?

The amount of money that should be deposited is \$ 10887.30 .
(Round up to the nearest cent.)

Parents wish to have \$120,000 available for a child's education. If the child is now 2 years old, how much money must be set aside at 8% compounded semiannually to meet their financial goal when the child is 18?

The amount that should be set aside is \$ 34207 .
(Round up to the nearest dollar.)

Periodic Deposit	\$30 at the end of each month
Rate	4.5% compounded monthly
Time	10 years

- a. Use the following formula to find the value of the annuity.

$$A = \frac{P \left[\left(1 + \frac{r}{n} \right)^{nt} - 1 \right]}{\frac{r}{n}}$$

- b. Find the interest.

a. After 10 years, you will have approximately \$ 4536 .
(Do not round until the final answer. Then round to the nearest dollar as needed.)

b. The interest is approximately \$ 936 .
(Use the answer from part a to find this answer. Round to the nearest dollar as needed.)

Periodic Deposit	\$? at the end of each year
Rate	6.5% compounded annually
Time	10 years
Financial Goal	\$120,000

- a. Use the following formula to determine the periodic deposit.

$$P = \frac{A \left(\frac{r}{n} \right)}{\left[\left(1 + \frac{r}{n} \right)^{nt} - 1 \right]}$$

- b. How much of the financial goal comes from deposits and how much comes from interest?

a. In order to have \$120,000 in 10 years, you should deposit \$ 8893 each year.
(Do not round until the final answer. Then round up to the nearest dollar.)

b. \$ 88930 of the \$120,000 comes from your deposits and \$ 31070 comes from interest.
(Use the answer from part a to find this answer. Round to the nearest dollar as needed.)

Here are two ways of investing \$10,000 for 10 years. Complete parts (a) and (b) below.

Lump-Sum Deposit	Rate	Time
\$10,000	10% compounded annually	10 years
Periodic Deposit	Rate	Time
\$1000 at the end of each year	10% compounded annually	10 years

- a. After 10 years, how much more will you have from the lump-sum investment than from the annuity?

You will have approximately \$ 10000 more from the lump-sum investment than from the annuity.
(Round to the nearest dollar as needed.)

- b. After 10 years, how much more interest will have been earned from the lump-sum investment than from the annuity?

The interest earned on the lump-sum investment will be approximately \$ 10000 more than the interest earned from the annuity.
(Round to the nearest dollar as needed.)

The price of a home is \$226,000. The bank requires a 20% down payment and three points at the time of closing. The cost of the home is financed with a 30-year fixed-rate mortgage at 9%.

a. Find the required down payment.

\$ 45200

b. Find the amount of the mortgage.

\$ 180800

c. How much must be paid for the three points at closing?

\$ 5424

(Round to the nearest dollar as needed.)

d. Find the monthly payment (excluding escrowed taxes and insurance).

\$ 1455

(Round to the nearest dollar as needed.)

e. Find the total cost of interest over 30 years.

\$ 343000

Question is complete.