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.

Use $PMT = \frac{P\left(\frac{r}{n}\right)}{1-\left(1+\frac{r}{n}\right)^{-nt}}$ to determine the regular payment amount, rounded to the nearest dollar. The cost of a home is financed with a $130,000 30-year fixed-rate mortgage at 3.5%.

a. Find the monthly payments and the total interest for the loan.
b. Prepare a loan amortization schedule for the first three months of the mortgage.

a. The monthly payment is $ 583.76 .
(Do not round until the final answer. Then round to the nearest cent as needed.)

The total interest for the loan is $ 80153.60 .
(Use the answer from part a to find this answer. Round to the nearest cent as needed.)

b. Fill out the loan amortization schedule for the first three months of the mortgage below.

Payment Number	Interest	Principal	Loan Balance
1	$ 379.17	$ 204.59	$ 129795.41
2	$ 378.57	$ 205.19	$ 129590.22
3	$ 377.97	$ 205.79	$ 129384.43

(Use the answer from part a to find these answers. Round to the nearest cent as needed.)

Total payments = 583.76 x 12 x 30 = 210153.60
Total interest paid: from the total subtract the amount being finance (principal), in this case 130000: 210153.60-130000=80153.60

Mortgage Loan Payments

Enter Values	
Loan Amount	$ 130,000.00
Annual Interest Rate	3.50 %
Loan Period in Years	30
Number of Payments Per Year	12
Start Date of Loan	3/1/2018
Optional Extra Payments	$ -

Loan Summary	
Scheduled Payment	$ 583.76
Scheduled Number of Payments	360
Actual Number of Payments	360
Total Early Payments	$ -
Total Interest	$ 80,152.91

Lender Name:

Note: Data for example 2 page 551, *Thinking Mathematically*, Blitzer.
Update cells accordingly using your own information

Pmt No.	Payment Date	Beginning Balance	Scheduled Payment	Extra Payment	Total Payment	Principal	Interest	Ending Balance	Cumulative Interest
1	4/1/2018	$ 130,000.00	$ 583.76	$ -	$ 583.76	$ 204.59	$ 379.17	$ 129,795.41	$ 379.17
2	5/1/2018	129,795.41	583.76	-	583.76	205.19	378.57	129,590.22	757.74
3	6/1/2018	129,590.22	583.76	-	583.76	205.79	377.97	129,384.43	1,135.71
4	7/1/2018	129,384.43	583.76	-	583.76	206.39	377.37	129,178.05	1,513.08