Review Exercise Set 14

Exercise 1: A company borrowed $1,000,000 from a lending agency at an annual interest rate of 8% to help finance the construction of a new office building. The loan is for only 1 year. What is the simple interest due on the loan? (Interest = Principal * Annual Interest Rate * Time).

Exercise 2: Bill's Sears credit card charges him 1.75% per month on his unpaid balance. If Bill has an unpaid balance of $5,436 for the month, find the amount of interest he will be charged by Sears. (Interest = Principal * Interest Rate * Time).

Exercise 3: Roxanne is looking to buy a car. A dealership near her house is offering car loans with a simple interest rate of 3.9% per year. Find the total amount of interest Roxanne will have to pay if the car she wants costs $10,900 and the loan is for 3 years.

Exercise 4:   If you deposited $2,000 into an account that pays 6% annual interest compounded monthly, what would be your account balance after 10 years. Use the compound interest table below to solve this problem. Round your answer to the nearest cent.

Compounded Monthly Interest Factors

	5%	6%	7%
1 year	1.0042	1.0050	1.0058
5 years	1.0210	1.0253	1.0295
10 years	1.0425	1.0511	1.0599
15 years	1.0644	1.0777	1.0912

Exercise 5: $4,500 is deposited into an account that pays 7% annual interest compounded daily. Find the amount of money that will be in the account after 15 years and the amount of interest earned over this time period.

Compounded Daily Interest Factors

	5%	6%	7%
1 year	1.05127	1.06183	1.07250
5 years	1.28400	1.34983	1.41902
10 years	1.64866	1.82203	2.01362
15 years	2.71810	3.31979	4.05466

Review Exercise Set 14 Answer Key

Exercise 1: A company borrowed $1,000,000 from a lending agency at an annual interest rate of 8% to help finance the construction of a new office building. The loan is for only 1 year. What is the simple interest due on the loan? (Interest = Principal * Annual Interest Rate * Time).

P = $1,000,000
R = 8% = 0.08
T = 1 year

I = P * R * T
I = (1000000)(0.08)(1)
I = 80000

The simple interest due on the loan would be $80,000.

Exercise 2: Bill's Sears credit card charges him 1.75% per month on his unpaid balance. If Bill has an unpaid balance of $5,436 for the month, find the amount of interest he will be charged by Sears. (Interest = Principal * Interest Rate * Time).

P = $5,436
R = 1.75% = 0.0175
T = 1 month

I = P * R * T
I = (5436)(0.0175)(1)
I = 95.13

The monthly interest charge on Bill's credit card would be $95.13.

Exercise 3: Roxanne is looking to buy a car. A dealership near her house is offering car loans with a simple interest rate of 3.9% per year. Find the total amount of interest Roxanne will have to pay if the car she wants costs $10,900 and the loan is for 3 years.

P = $10,900
R = 3.9% = 0.039
T = 3 years

I = P * R * T
I = (10900)(0.039)(3)
I = 1275.3

The total interest to be paid on the car loan would be $1,275.30.

Exercise 4:   If you deposited $2,000 into an account that pays 6% annual interest compounded monthly, what would be your account balance after 10 years. Use the compound interest table below to solve this problem. Round your answer to the nearest cent.

Compounded Monthly Interest Factors

	5%	6%	7%
1 year	1.0042	1.0050	1.0058
5 years	1.0210	1.0253	1.0295
10 years	1.0425	1.0511	1.0599
15 years	1.0644	1.0777	1.0912

A = P * Interest factor $_{(6\%,\ 10yr)}$
A = 2000 * 1.0511
A = 2102.2

The account balance after 10 years would be $2,102.20.

Exercise 5: $4,500 is deposited into an account that pays 7% annual interest compounded daily. Find the amount of money that will be in the account after 15 years and the amount of interest earned over this time period.

Compounded Daily Interest Factors

	5%	6%	7%
1 year	1.05127	1.06183	1.07250
5 years	1.28400	1.34983	1.41902
10 years	1.64866	1.82203	2.01362
15 years	2.71810	3.31979	4.05466

A = P * Interest factor $_{(7\%,\ 15yr)}$
A = 4500 * 4.05466
A = 18245.97

The account balance after 15 years would be $18,245.97.