Problem Set 1 Exercise #07: Investment

Reference: Lecture 2 notes

Learning objectives: Integer division issue; Math class methods

Estimated completion time: 20 minutes

Problem statement:

If you invest *principal* amount of money (in dollars) at *rate* percent interest rate compounded annually, in *numYears* years, your investment will grow to

$$\frac{principal * (1 - (rate/100)^{numYears+1})}{1 - rate/100}$$

dollars.

Write a program **PS1_Ex07_investment.java** that accepts positive integers *principal*, *rate* and *numYears* and computes the amount of money earned after *numYears* years, presented in two decimal places.

You may assume that the interest rate is always smaller than 100.

Sample run #1:

```
Enter principal amount: 100
Enter interest rate   : 8
Enter number of years : 5
Amount = $108.70
```

Sample run #2:

```
Enter principal amount: 1234
Enter interest rate   : 12
Enter number of years : 10
Amount = $1402.27
```