

```
1 // Wyo Java Name -
2 // Ch 6 Worksheet #6
3 // Period -
4
5 public class Ch6Worksheet6
6 {
7     public static void main(String [] args)
8     {
9         // balance = $500
10        // number of years that your money is saved in the bank = 4
11        // interest rate is 5%
12        System.out.println (compoundAnnually (500, 4, 4));
13
14
15        // balance = $100
16        // number of years that your money is saved in the bank = 1
17        // interest rate is 5%
18        // interest is compounded each month (total of 12 months)
19
20        System.out.println (compoundMonthly (100, 1, 5, 12));
21    }
22
23    public static double compoundAnnually (double balance, int years, int r)
24    {
25
26        for (int i = 1; i <= years; i++)
27        {
28            balance += (balance * r)/100.0;
29        }
30
31        return balance;
32    }
33
34    public static double compoundMonthly (double bal, int yrs, int r, int p)
35    {
36        for (int i = 1; i <= yrs; i++)
37        {
38            for (int j = 1; j <= p; j++)
39            {
40                bal += bal * r / 100 / p;
41            }
42        }
43
44        return bal;
45    }
46 }
47
48 /*
49 Trace the program above. Make columns for each variable and trace the
50 values stored in each variable. Show the final output that is
51 displayed in a rectangle. You may round values to the nearest penny.
52 Look up explanations of these interest calculation formulas on the
53 Web if necessary. You must understand these algorithms!
54 */
```