1. The algorithm performs the math operation at the wrong time. It multiplies width by length before getting values for those variables.

2. *Display "What is the customer's maximum amount of credit?"*
   Input maxCredit.
   Display "What is the amount of credit used by the customer?"
   Input creditUsed.
   availableCredit = maxCredit – creditUsed.
   Display availableCredit.

3. *Display "What is the account's starting balance?"*
   Input startingBalance.
   Display "What is the total amount of the deposits made?"
   Input deposits.
   Display "What is the total amount of the withdrawals made?"
   Input withdrawals.
   Display "What is the monthly interest rate?"
   Input interestRate.
   balance = startingBalance + deposits – withdrawals.
   *interest = balance * interestRate.*
   balance = balance + interest.
   Display balance.

4. *Display "What is the retail price of the item?"*
   Input retailPrice.
   Display "What is the sales tax rate?"
   Input taxRate.
   *salesTax = retailPrice * taxRate.*
   total = retailPrice + salesTax.
   Display salesTax.
   Display total.

5.
```
//*****************************************************************
//  MilesToKilometers.java
//*****************************************************************
```

```
import java.util.Scanner;

public class MilesToKilometers
{
   //-----------------------------------------------------------------
   //  Converts miles into kilometers. The value for miles is read
   //  from the user.
   //-----------------------------------------------------------------
   public static void main(String[] args)
   {
      final double MILES_PER_KILOMETER = 1.60935;

      double miles, kilometers;

    Scanner scan = new Scanner(System.in);

      System.out.print("Enter the distance in miles: ");
      miles = scan.nextDouble();

      kilometers = MILES_PER_KILOMETER * miles;

      System.out.println("That distance in kilometers is: " +
                         kilometers);
   }
}
```

6.

```
//********************************************************************
//  ChangeCounter.java
//********************************************************************

import java.util.Scanner;

public class ChangeCounter
{
   //-----------------------------------------------------------------
   //  Computes the total value of a collection of coins.
   //-----------------------------------------------------------------
   public static void main(String[] args)
   {
      int quarters, dimes, nickels, pennies;
      int total, dollars, cents;

        Scanner scan = new Scanner(System.in);

      System.out.print("Enter the number of quarters: ");
      quarters = scan.nextInt();
      System.out.print("Enter the number of dimes: ");
      dimes = scan.nextInt();
      System.out.print("Enter the number of nickels: ");
      nickels = scan.nextInt();
      System.out.print("Enter the number of pennies: ");
      pennies = scan.nextInt();

      total = quarters * 25 + dimes * 10 + nickels * 5 + pennies;

      dollars = total / 100;
      cents = total % 100;

      System.out.println("Total value: " + dollars + " dollars and " +
                         cents + " cents.");
```

```
   }
}
```

7.

```
//********************************************************************
//  SphereCalculations.java
//********************************************************************

import java.util.Scanner;
import java.text.DecimalFormat;

public class SphereCalculations
{
   //-----------------------------------------------------------------
   //  Computes the volume and surface area of a sphere given its
   //  radius.
   //-----------------------------------------------------------------
   public static void main(String[] args)
   {
      double radius, area, volume;
        Scanner scan = new Scanner(System.in);

      System.out.print("Enter the sphere's radius: ");
      radius = scan.nextDouble();

      volume = 4.0 / 3.0 * Math.PI * Math.pow(radius, 3);
      area = 4 * Math.PI * Math.pow(radius, 2);

      DecimalFormat fmt = new DecimalFormat("0.####");
      System.out.println("Volume: " + fmt.format(volume));
      System.out.println("Surface area: " + fmt.format(area));
   }
}
```