Chap04Yourname.java
Void methods

```java
public class Chap04 {

    public static void main(String[] args) {
        double root, angle, degrees, height, x, y;
        String s, t, day, month;
        int year, date, hour, minute;


        \\Type here
    }

    public static void newLine() {
        System.out.println();
    }
}
```

4.1 **Math** methods

```
System.out.println("4.1 Math methods");
root = Math.sqrt(25.0);
System.out.println("The square root of 25 is: " + root);
newLine();
```

4.1 **Math** methods

```
angle = 0.5 * Math.PI;
height = Math.sin(angle);
degrees = Math.toDegrees(angle);
System.out.println("Sine of 0.5 pi ridians is: " + height);
System.out.println("0.5 pi radians is equal to " + degrees + " degrees");
newLine();
```

4.1 Math methods

```
degrees = 270.0;
angle = Math.toRadians(degrees);
height = Math.sin(angle);
System.out.println("Sine of 270 degrees is: " + height);
System.out.print("270 degrees is equal to " + angle / Math.PI);
System.out.println(" pi radians");
newLine();
```

4.1 Math methods

```
y = Math.pow(2.0, 10.0);
System.out.println("y = 2 ^ 10 = " + y);
System.out.println(Math.round(1.888));
newLine();
```

4.2 Euler's number, composition

```java
System.out.println("4.2 Euler's number, composition");
System.out.println("The Euler's number, e, is: " + Math.E);
System.out.println("y = e ^ x");
System.out.println("y is the xth power of base e. Or:");
System.out.print("x is the exponent to the base e such that the ");
System.out.println("power is y.");
y = Math.exp(2);
System.out.println("The second power of e is y = e ^ 2 = " + y);
newLine();
```

4.2 Euler's number, composition

```java
System.out.println("x = ln y");
x = Math.log(y);
System.out.println("x is the logarithm to the base e of the power y. Or");
System.out.println("x is the natural logarithm of y");
System.out.println("x = ln 7.38905609893065 = " + x);
System.out.println(Math.log(Math.exp(2)));
newLine();
```

4.5 & 4.6 Parameters and arguments

```java
        System.out.println("4.5 & 4.6 Parameters and arguments.");
        s = "Print this line twice.";
        t = "We are Olers.";
        printTwice(s);
        printTwice(t);
}
public static void printTwice(String s) {
        System.out.println(s);
        System.out.println(s);
}
```

4.5 & 4.6 Parameters and arguments

//Flow of execution: Execution always begins at first statement of main,

//regardless of where it is in the source code.

//When you write a method, you name the parameters.

//When you use(invoke) a method, you provide the arguments.

//For example, printTwice has a parameter named s with type String.

//When we invoke printTwice, we have to provide an argument with type

//String. This process is called parameter passing.

//Parameters and other variables only exist inside their own methods, so

//they are often call local variables.

4.5 & 4.6 Parameters and arguments

```
        hour = 14; minute = 18; year = 2012; date = 30;

        printTime(hour, minute);

        printTime(year, date);

        printTime(11, 19);

        newLine();
}
public static void printTime(int hour, int minute) {

        System.out.print(hour);

        System.out.print(":");

        System.out.println(minute);
}
```

4.5 & 4.6 Parameters and arguments

//The hour and minute here in method main are local variables. They are
//NOT the same as those in method printTime, although they have the same
//names. hour in printTime and hour in main refer to different storage
//locations, and THEY CAN HAVE DIFFERENT VALUES.