**Assignment 1**

**Task 1 (20 pts.)**

public class task1

{

public static void main(String[] args)

{

System.out.println("5+7");

System.out.println(5+7);

}

}

If you execute this program, what will be printed? Put your answer in your answers file.

Console:

5+7

12

### Task 2 (20 pts.)

What will be printed by the following code?

public class task2

{

public static void main(String[] args)

{

int a = 10;

int b = 20;

System.out.println(a);

System.out.println(b);

b = a+b;

a = 2\*b - a;

System.out.println(a);

System.out.println(b);

}

}

Put your answer in your answers file.

10

20

50

30

### Task 3 (20 pts.)

public class square

{

public static void main(String[] args)

{

double square\_area = side\_length \* side\_length;

double side\_length = 10.0;

System.out.println(square\_area);

}

}

The above code is an incorrect attempt to compute that, if the length of the side of a square is 10, then the area of the square is 10 squared, which is 100.

If you try to run the above code, it will not work. Rewrite the program so that it works, and save it as square.java.

Also, in your answers file, explain exactly (only a few words are needed) why the code, as given above, does not work.

When you fix the code, your program output should look EXACTLY like this:

100.0

Answer:

public class square

{

public static void main(String[] args)

{

double side\_length = 10.0;

//The variable side\_length was being used before being declared and initiated.

double square\_area = side\_length \* side\_length;

System.out.println(square\_area);

}

}

**Task 4 (20 pts.)**

The area of a triangle with height H and base B is B\*H/2. The following code is an incorrect attempt to write a program that computes the area of a triangle. The following Java code attempts to calculate the area of a triangle, but there is something wrong.

public class triangle

{

public static void main(String[] args)

{

int base = 3;

int height = 5;

int area = height \* base / 2;

System.out.println(area);

}

}

If you run the above program, the program prints out the wrong answer. In your answers file, explain why this code gives the wrong result. Write a corrected version of the above program and save it as triangle.java.

When you fix the code, your program output should look EXACTLY like this:

7.5

Answer

public class triangle

{

public static void main(String[] args)

{

int base = 3;

int height = 5;

double area = height \* base / 2.0;

System.out.println(area);

}

}

### Task 5 (20 pts.)

The area *A* of a rectangle can be calculated by multiplying the length and the width: *A* = *l* × *w*, where *l* is the length and *w* is the width. The perimeter P of a rectangle can be calculated with *P* = 2(*l* + *w)*. Write a program that:

* Defines a variable called "length", and sets its value to 5.5.
* Defines a variable called "width", and sets its value to 4.
* Computes the area of the rectangle, and stores it in a variable called "area".
* Computes the perimeter of the rectangle, and stores it in a variable called "perimeter".
* Prints out the area and perimeter.

Save your program as rectangle.java.

Your program output should look EXACTLY like this:

22.0

19.0

Answer (see other document too):

**public** **class** rectangle {

**public** **static** **void** main(String[] args)

{

**double** length = 5.5;

**int** width = 4;

**double** area = length \* width;

**double** perimeter = 2\*length + 2\*width;

System.***out***.println(area);

System.***out***.println(perimeter);

}

}