Develop a java program that can create an abstract class named Shape that contains 2 integers and an empty method printArea().Provide 3 classes Triangle Rectangle and circle such that each one extends class shape. Each one contains only method printArea() that prints the area of given shape.

import java.lang.\*;

abstract class Shape{

int a,b;

double area;final double pi=3.142;

Shape(int x,int y) {

a=x;b=y;area=0;

}

abstract void printArea();

}

class Rectangle extends Shape

{

Rectangle(int x,int y)

{

super(x,y);

}

void printArea()

{

area=a\*b;

System.out.println("Rectangle area="+area);

}

}

class Triangle extends Shape

{

Triangle(int x,int y)

{

super(x,y);

}

void printArea()

{

area=a\*b\*0.5;

System.out.println("Triangle area="+area);

}

}

class Circle extends Shape

{

Circle(int x)

{

super(x,-1);

}

void printArea()

{

area=pi\*Math.pow(a,2);

System.out.println("Circle area="+area);

}

}

class demoshape1{

public static void main(String args[])

{

Rectangle r1=new Rectangle(1,2);

Triangle t1=new Triangle(1,2);

Circle c1=new Circle(5);

Shape ref;

ref=r1;ref.printArea();

ref=t1;ref.printArea();

ref=c1;ref.printArea();

}

}

Sample Output

