

These practice exercises are not required, but working on them is strongly encouraged. Possible solutions will be released on the due dates indicated below.

Practice 08a – Java Concepts Chapter 08: Designing Classes

Due: Wednesday, Nov 12th.

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Write static methods:

```
public static double sphereVolume(double r)
public static double sphereSurface(double r)
public static double cylinderVolume(double r, double h)
public static double cylinderSurface(double r, double h)
public static double coneVolume(double r, double h)
public static double coneSurface(double r, double h)
```

to compute the volume and surface area of a sphere with radius r , a cylinder with circular base with radius r and height h , and a cone with circular base with radius r and height h respectively. Place them into a class `Geometry`. Then write a program that prompts the user for the values of r and h , calls the six methods, and prints the results.

Here is a sample program run:

Please enter the radius:

5

Please enter the height:

10

The volume of the sphere is: 523.5987755982989

The surface area of the sphere is: 314.1592653589793

The volume of the cylinder is: 785.3981633974483

The surface area of the cylinder is: 471.23889803846896

The volume of the cone is: 261.79938779914943

The surface area of the cone is: 235.61944901923448

Your main class should be called `GeometryCalculator`.

Practice 08b – Java Concepts Chapter 08: Designing Classes
Due: Friday, Nov 14th.

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Solve Exercise P8.5 by implementing classes Sphere, Cylinder, and Cone. Which approach is more object-oriented?

Here is a sample program run:

Please enter the radius:

5

Please enter the height:

10

The volume of the sphere is: 523.5987755982989

The surface area of the sphere is: 314.1592653589793

The volume of the cylinder is: 785.3981633974483

The surface area of the cylinder is: 471.23889803846896

The volume of the cone is: 261.79938779914943

The surface area of the cone is: 235.61944901923448

Your main class should be called GeometryCalculator.