Javascript Assignment 5

**1) Write a JavaScript program to get the volume of a Cylinder, Sphere and
Cone with four decimal places using objects and classes. Create classes for volumes for each geometric shape which returns the
output using the getVolume() method.**

eg- to get volume of cylinder-
let obj= new Cylinder(radius,height);

obj.getVolume();

Formulas for volumes of the shapes-
1) Cylinder- Volume = πr

2h

where r is the radius and h is the height of the cylinder.
2)Sphere- Volume= 4/3πr
3
where r is the radius
3) Cone- Volume= πr
2h/3

where r is the radius and h is the height of the cone.

Solution:

```
// Geometric Shapes Volume Calculator
class Cylinder {
    constructor(radius, height) {
        this.radius = radius;
        this.height = height;
    }

    getVolume() {
        // Volume = πr²h
        const volume = Math.PI * Math.pow(this.radius, 2) *
this.height;
        return Number(volume.toFixed(4));
    }
}

class Sphere {
    constructor(radius) {
        this.radius = radius;
    }

    getVolume() {
        // Volume = 4/3 * πr³
        const volume = (4/3) * Math.PI * Math.pow(this.radius, 3);
        return Number(volume.toFixed(4));
    }
}

class Cone {
```

```
    constructor(radius, height) {
        this.radius = radius;
        this.height = height;
    }

    getVolume() {
        // Volume = πr²h/3
        const volume = (Math.PI * Math.pow(this.radius, 2) *
this.height) / 3;
        return Number(volume.toFixed(4));
    }
}

// Example usage
const cylinder = new Cylinder(5, 10);
console.log("Cylinder Volume:", cylinder.getVolume());

const sphere = new Sphere(5);
console.log("Sphere Volume:", sphere.getVolume());

const cone = new Cone(5, 10);
console.log("Cone Volume:", cone.getVolume());
```