

## ACCURACY ASSESSMENT

In order to deliver the results as much accurate as possible I decided to use 10 decimal cases in pi's value. Which this is the same amount of decimal cases that NASA uses.

These are some examples which show the results of the calculations compared to other Surface Area Calculator that is available online to validate the accuracy of the program.

### Sphere's Calculation (*SACalc*)

When the radius value is 2.

```
-----
*****Surface Area Calculator*****
-----
1. Surface Area of Sphere
2. Surface Area of Cone
3. Surface Area of Cylinder
4. Surface Area of Cube
5. Surface Area of Cuboid
6. Exit
Which Surface Area do you want to calculate?
1
You chose to calculate the Surface area of Sphere
Enter the value of the radius in cm :
2
The Surface area of the sphere is 50.2654824560 cm2
```

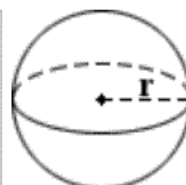
### Sphere's Calculation (*Online Calculator*)

#### Ball Surface Area

Result

Surface Area =  $4 \times \pi \times 2^2 = 50.265482457437 \text{ centimeters}^2$

Radius (r)  centimeters



## Cone's Calculation (*SACalc*)

When the base radius is 5 and the value of the height is 7.

```
-----
*****Surface Area Calculator*****
-----
1. Surface Area of Sphere
2. Surface Area of Cone
3. Surface Area of Cylinder
4. Surface Area of Cube
5. Surface Area of Cuboid
6. Exit
Which Surface Area do you want to calculate?
2
you chose to calculate the Surface area of Cone
Enter the value of the Base Radius in cm :
5
Enter the value of the Height in cm :
7
The Surface area of the cone is 204.2035224775 cm2
```

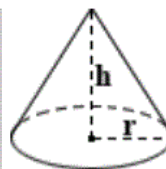
## Cone's Calculation (*Online Calculator*)

### Cone Surface Area

Result

Total Surface Area = **213.6648256534 centimeters<sup>2</sup>**

Base Radius (r)	<input type="text" value="5"/>	<input type="text" value="centimeters"/>
Height (h)	<input type="text" value="7"/>	<input type="text" value="centimeters"/>
<input type="button" value="Calculate"/>		



## Cylinder's Calculation (*SACalc*)

When the radius value is 34 and the value of the height is 2.

```
-----
*****Surface Area Calculator*****
-----
1. Surface Area of Sphere
2. Surface Area of Cone
3. Surface Area of Cylinder
4. Surface Area of Cube
5. Surface Area of Cuboid
6. Exit
Which Surface Area do you want to calculate?
3
you chose to calculate the Surface area of Cylinder
Enter the value of the Radius in cm :
34
Enter the value of the Height in cm :
2
The Surface area of the cylinder is 7690.6188157680 cm2
```

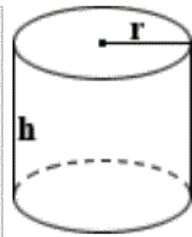
## Cylinder's Calculation (*Online Calculator*)

### Cylindrical Tank Surface Area

Result

Total Surface Area = **7690.6188159878 centimeters<sup>2</sup>**

Base Radius (r)	<input type="text" value="34"/>	<input type="text" value="centimeters"/>	▼
Height (h)	<input type="text" value="2"/>	<input type="text" value="centimeters"/>	▼
<input type="button" value="Calculate"/>			



## Cube's Calculation (*SACalc*)

When the edge length value is 3.

```
-----  
*****Surface Area Calculator*****  
-----  
1. Surface Area of Sphere  
2. Surface Area of Cone  
3. Surface Area of Cylinder  
4. Surface Area of Cube  
5. Surface Area of Cuboid  
6. Exit  
Which Surface Area do you want to calculate?  
4  
you chose to calculate the Surface area of Cube  
Enter the value of the edge length in cm :  
3  
The Surface area of the cube is 54 cm2  
Press any key to continue
```

## Cylinder's Calculation (*Online Calculator*)

### Cube Surface Area

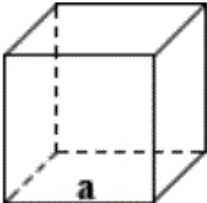
Result

Surface Area =  $6 \times 3^2 = 54 \text{ centimeters}^2$

Edge Length (a)

▼

Calculate



## Cuboid's Calculation (*SACalc*)

When the length value is 2, the width value is 5 and the value of the height is 8.

```
-----
*****Surface Area Calculator*****
-----
1. Surface Area of Sphere
2. Surface Area of Cone
3. Surface Area of Cylinder
4. Surface Area of Cube
5. Surface Area of Cuboid
6. Exit
Which Surface Area do you want to calculate?
5
you chose to calculate the surface area of Cuboid
Enter the value of the length in cm :
2
Enter the value of the width in cm :
5
Enter the value of the height in cm :
8
The Surface area of the cuboid is 132 cm2
```

## Cylinder's Calculation (*Online Calculator*)

### Rectangular Tank Surface Area

Result

Surface Area =  $2 \times (2 \times 5 + 2 \times 8 + 5 \times 8) = 132 \text{ centimeters}^2$

Length (l)	<input type="text" value="2"/>	centimeters	▼
Width (w)	<input type="text" value="5"/>	centimeters	▼
Height (h)	<input type="text" value="8"/>	centimeters	▼
<input type="button" value="Calculate"/>			

