

COMP 315

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Lab 01

Geometric Functions

Resultados:

Test, Option 1

```
"C:\Users\ruben\OneDrive\Desktop\UAGM\2025-2026\2025-
This is a Geometry Calculator
Choose what you would like to calculate
1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program
Enter the number of your choice:1
```

You choose find the area of a Circle

Enter the radius of the Circle:2

The area of the Circle is: 12.5664

Formula: $A = \pi * r^2$ | $\pi * 2^2 = 12.56$

This is a Geometry Calculator

Choose what you would like to calculate

1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program

Enter the number of your choice:**1**

You choose find the area of a Circle

Enter the radius of the Circle:**3**

The area of the Circle is: 28.2743

Formula: A = π * r^2 | π * 3 ^2 = 28.27

```
This is a Geometry Calculator
Choose what you would like to calculate
1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program
Enter the number of your choice:1
```

```
You choose find the area of a Circle
Enter the radius of the Circle:4
```

```
The area of the Circle is: 50.2655
```

```
This is a Geometry Calculator
Choose what you would like to calculate
1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program
Enter the number of your choice:7
```

```
Program Stopped
```

Formula: A = $\pi \cdot r^2$ | $\pi \cdot 4^2 = 50.26$

Test, Option 2

```
"C:\Users\ruben\OneDrive\Desktop\UAGM\2025-2026\2025-2026s2\Ana Des Data Struct & Alg
```

This is a Geometry Calculator

Choose what you would like to calculate

1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program

Enter the number of your choice:2

You choose find the area of a Rectangle

Enter the Length of the Rectangle:2

Enter the Width of the Rectangle:2

The area of the Rectangle is: 4

Formula: $A = l \times w$ | $2 \times 2 = 4$

This is a Geometry Calculator

Choose what you would like to calculate

1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program

Enter the number of your choice:2

You choose find the area of a Rectangle

Enter the Length of the Rectangle:3

Enter the Width of the Rectangle:3

The area of the Rectangle is: 9

Formula: $A = l \times w$ | $3 \times 3 = 9$

```
This is a Geometry Calculator
Choose what you would like to calculate
1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program
Enter the number of your choice:2
```

```
You choose find the area of a Rectangle
Enter the Length of the Rectangle:4
```

```
Enter the Width of the Rectangle:4
```

```
The area of the Rectangle is: 16
```

```
This is a Geometry Calculator
Choose what you would like to calculate
1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program
Enter the number of your choice:7
```

```
Program Stopped
```

Formula: $A = l \times w$ | $4 \times 4 = 16$

Test, Option 3

This is a Geometry Calculator

Choose what you would like to calculate

1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program

Enter the number of your choice:3

You choose find the area of a Triangle

Enter the base of the Triangle:2

Enter the height of the Triangle:2

The area of the Triangle is: 2

Formula: $A = \frac{1}{2} * b * h$ | $\frac{1}{2} * 2 * 2 = 2$

This is a Geometry Calculator
Choose what you would like to calculate
1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program

Enter the number of your choice:**3**

You choose find the area of a Triangle

Enter the base of the Triangle:**3**

Enter the height of the Triangle:**3**

The area of the Triangle is: 4.5

Formula: $A = \frac{1}{2} * b * h$ | $\frac{1}{2} * 3 * 3 = 4.5$

```
This is a Geometry Calculator
Choose what you would like to calculate
1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program
Enter the number of your choice:3
```

```
You choose find the area of a Triangle
Enter the base of the Triangle:4
```

```
Enter the height of the Triangle:4
```

```
The area of the Triangle is: 8
```

```
This is a Geometry Calculator
Choose what you would like to calculate
1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program
Enter the number of your choice:7
```

```
Program Stopped
```

Formula: $A = \frac{1}{2} * b * h$ | $\frac{1}{2} * 4 * 4 = 8$

Test Option 4

This is a Geometry Calculator

Choose what you would like to calculate

1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program

Enter the number of your choice:**4**

You choose find the circumference of a Circle

Enter the radius of the Circle:**2**

The circumference of the Circle is: 12.5664

Formula: $C = 2\pi r$ | $2 \cdot \pi \cdot 2 = 12.56$

This is a Geometry Calculator

Choose what you would like to calculate

1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program

Enter the number of your choice:**4**

You choose find the circumference of a Circle

Enter the radius of the Circle:**3**

The circumference of the Circle is: 18.8496

Formula: $C = 2\pi r | 2 \cdot \pi \cdot 3 = 18.85$

```
This is a Geometry Calculator
Choose what you would like to calculate
1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program
Enter the number of your choice:4
```

```
You choose find the circumference of a Circle
Enter the radius of the Circle:4
```

```
The circumference of the Circle is: 25.1327
```

```
This is a Geometry Calculator
Choose what you would like to calculate
1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program
Enter the number of your choice:7
```

```
Program Stopped
```

Formula: $C = 2\pi r | 2 \cdot \pi \cdot 4 = 25.13$

Test Option 5

This is a Geometry Calculator

Choose what you would like to calculate

1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program

Enter the number of your choice:5

You choose find the perimeter of a Rectangle

Enter the Length of the Rectangle:2

Enter the Width of the Rectangle:2

The perimeter of the Rectangle is: 8

$$P = (2*l) + (2*w) | (2 * 2) + (2 * 2) = 8$$

This is a Geometry Calculator
Choose what you would like to calculate
1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program
Enter the number of your choice:5

You choose find the perimeter of a Rectangle
Enter the Length of the Rectangle:3

Enter the Width of the Rectangle:3

The perimeter of the Rectangle is: 12

$$P = (2 \cdot l) + (2 \cdot w) | (2 \cdot 3) + (2 \cdot 3) = 12$$

```
This is a Geometry Calculator
Choose what you would like to calculate
1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program
Enter the number of your choice:5
```

```
You choose find the perimeter of a Rectangle
Enter the Length of the Rectangle:4
```

```
Enter the Width of the Rectangle:4
```

```
The perimeter of the Rectangle is: 16
```

```
This is a Geometry Calculator
Choose what you would like to calculate
1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program
Enter the number of your choice:7
```

```
Program Stopped
```

$$P = (2 \cdot l) + (2 \cdot w) | (2 \cdot 4) + (2 \cdot 4) = 16$$

Test Option 6

This is a Geometry Calculator

Choose what you would like to calculate

1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program

Enter the number of your choice:**6**

You choose find the perimeter of a Triangle

Enter the first side of the Triangle:**2**

Enter the second side of the Triangle:**2**

Enter the third side of the Triangle:**2**

The perimeter of the Triangle is: **6**

Formula: $P = s_1 + s_2 + s_3 | 2 + 2 + 2 = 6$

This is a Geometry Calculator
Choose what you would like to calculate
1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program

Enter the number of your choice:**6**

You choose find the perimeter of a Triangle
Enter the first side of the Triangle:**3**

Enter the second side of the Triangle:**3**

Enter the third side of the Triangle:**3**

The perimeter of the Triangle is: **9**

Formula: $P = s_1 + s_2 + s_3 | 3 + 3 + 3 = 9$

```
This is a Geometry Calculator
Choose what you would like to calculate
1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program
```

```
Enter the number of your choice:6
```

```
You choose find the perimeter of a Triangle
```

```
Enter the first side of the Triangle:4
```

```
Enter the second side of the Triangle:4
```

```
Enter the third side of the Triangle:4
```

```
The perimeter of the Triangle is: 12
```

```
This is a Geometry Calculator
Choose what you would like to calculate
1. Find the area of a Circle
2. Find the area of a Rectangle
3. Find the area of a Triangle
4. Find the circumference of a Circle
5. Find the perimeter of a Rectangle
6. Find the perimeter of a Triangle
7. Stop the program
```

```
Enter the number of your choice:7
```

```
Program Stopped
```

Formula: $P = s_1 + s_2 + s_3 | 4 + 4 + 4 = 12$

Justificacion;

En todas las entradas se visualizan los resultados esperados porque usando la formulas del pdf del laboratorio haciendo los cálculos a mano me da lo mismo que las calculaciones del programa.