# Test Plan: **Operations on Shapes**:

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| ID | Description | Precondition | Expected I/p | Expected O/p | Actual o/p |
| H\_01 | Selecting from available options on shapes. | Menu containing available options | Serial no. corresponding to shape | Takes the correct shape as input | Takes the correct shape as input |
| H\_02 | In taking dimensions of the shape. | Shape selected | Depending on the shape, providing the dimensions | Takes the correct dimensions as input | Takes the correct dimensions as input. |
| H\_02\_L\_01 | Calculating area of the shape | Dimensions given | Dimensions of the shape | Area of the shape | Area of the shape |
| H\_02\_L\_02 | Calculating perimeter of the shape | Dimensions given | Dimensions of the shape | Perimeter of the shape | Perimeter of the shape |
| H\_03 | Operations on the area and perimeter of shapes. | Calculated area and perimeter of shape | area and perimeter of shape | Corresponding functional value or Boolean value to the mathematical operation | Corresponding functional value or Boolean value to the mathematical operation |
| H\_03\_L\_01 | Arithmetic operations: addition, subtraction, multiplication, division, modulus. | Calculated area and perimeter of shape | area and perimeter of shape | Corresponding mathematical operation value | Corresponding mathematical operation value |
| H\_03\_L\_01\_01 | Addition | Calculated area and perimeter of shape | Eg:  Area=20, perimeter=9 | 29 | 29 |
| H\_03\_L\_02 | Checking if the input is odd or even | Calculated area and perimeter of shape | Eg: Area=40,perimeter=13 | 1,0 | 1,0 |
| H\_03\_L\_03 | Checking if input is prime or composite | Calculated area and perimeter of shape | Eg: Area=40,perimeter=13 | 0,1 | 0,1 |
| H\_03\_L\_04 | Checking if the number is positive, negative or zero | Calculated area and perimeter of shape | Eg: Area=40,perimeter=13 | 1,1 | 1,1 |
| H\_03\_L\_05 | Finding reverse of the number | Calculated area and perimeter of shape | Eg: Area=298,perimeter=148 | 892,841 | 892,841 |
| H\_03\_L\_06 | Finding factorial of the number | Calculated area and perimeter of shape | Eg: Area=10,perimeter=7 | 3,628,800, 5,040 | 3,628,800, 5,040 |
| H\_03\_L\_07 | Finding sum of digits | Calculated area and perimeter of shape | Eg: Area=200,perimeter=120 | 2,3 | 2,3 |
| H\_03\_L\_08 | Checking if the input is a magic number | Calculated area and perimeter of shape | Eg: Area=240,perimeter=100 | 0,1 | 0,1 |