# Test Plan

## 1. General Input

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Ref.** | **Purpose** | **Test Data** | **Expected Result** | **Pass** | **Figure Ref.** |
| ***t. 1.1.1*** |  |  |  |  |  |
| ***t. 1.1.2*** |  |  |  |  |  |

## 2. Loci Input

### 2.1 Circles and Disks

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***t. 2.1.1*** | Circles with simple radii are drawn correctly. |  | A circle of radius 100 is drawn. | ✓ | *fig. 2.1.1* |
| ***t. 2.1.2*** | Circles with complex radii are not drawn. |  | The equation is accepted, but nothing is drawn. | ✓ | *fig. 2.1.1* |
| ***t. 2.1.3*** | Circles with radius 0 are drawn as a point. |  | A point at the origin is drawn. | ✓ | *fig. 2.1.1* |
| ***t. 2.1.4*** | Circles with negative radii are not drawn. |  | The equation is accepted, but nothing is drawn. | ✓ | *fig. 2.1.1* |
| ***t. 2.1.5*** | Circles with offsets are correctly drawn in all quadrants. |  | Four separate circles are drawn, centred on 50, -50, 50j and -50j. | ✓ | *fig. 2.1.2* |
| ***t. 2.1.6*** | *‘Less than’* disks are shaded correctly with a dashed line. |  | A shaded disk with a radius 100 and a dashed edge is drawn. | ✓ | *fig. 2.1.3* |
| ***t. 2.1.7*** | *‘Less than or equal to’* disks are shaded correctly with a solid line. |  | A shaded disk with a radius 50 and a solid edge is drawn. | ✓ | *fig. 2.1.3* |
| ***t. 2.1.8*** | *‘More than’* negative disks are shaded correctly with a dashed line. |  | The entire screen is shaded apart from a disk with radius 150 and a dashed edge. | ✓ | *fig. 2.1.3* |
| ***t. 2.1.9*** | *‘More than or equal to’* disks are shaded correctly with a solid line. |  | The entire screen is shaded apart from a disk with radius 200 and a solid edge. | ✓ | *fig. 2.1.3* |

### 2.2 Lines and Half-Planes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***t. 2.2.1*** | Perpendicular bisectors with real gradients are drawn correctly. |  | The line is drawn. | ✓ | *fig. 2.2.1* |
| ***t. 2.2.2*** | Vertical bisectors are drawn correctly. |  | The line is drawn. | ✓ | *fig. 2.2.1* |
| ***t. 2.2.3*** | Horizontal bisectors are drawn correctly. |  | The line is drawn. | ✓ | *fig. 2.2.1* |
| ***t. 2.2.4*** | *‘More/less than’ h*alf-planes are drawn correctly. |  | The areas above the line (see ***t. 2.2.1***), and the line are shaded, both with a dashed edge. | ✓ | *fig. 2.2.2* |
| ***t. 2.2.4*** | *‘More/less than or equal to’* half-planes are drawn correctly. |  | The areas above the line (see ***t. 2.2.1***), and the line are shaded, both with a solid edge. | ✓ | *fig. 2.2.3* |

### 2.3 RayS

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***t. 2.3.1*** | Rays from the origin are drawn correctly in all quadrants. |  | Rays are drawn from the origin with arguments of , , , and from the positive real axis. | ✓ | *fig. 2.3.1* |
| ***t. 2.3.2*** | Rays with offsets are drawn correctly. |  | A horizontal ray is drawn from in the positive real direction, a vertical ray is drawn from 50 in the positive imaginary direction, and a ray is drawn from the intersection point with an argument of . | ✓ | *fig. 2.3.2* |

### 2.4 Points

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***t. 2.4.1*** | Simple points are plotted correctly in all quadrants. |  | Points are drawn at , , , and . | ✓ | *fig. 2.4.1* |
| ***t. 2.4.2*** | Simple points are plotted correctly on axes. |  | Points are drawn at , , , and . | ✓ | *fig. 2.4.2* |
| ***t. 2.4.3*** | The parser can plot points from more complex inputs. |  | Points are drawn at , and . | ✓ | *fig. 2.4.3* |
| ***t. 2.4.4*** | Points are labelled when enabled in preferences. | “Label points.” enabled in preferences. | The point is labelled with the text “50+50j”. | ✓ | *fig. 2.4.4* |

## 3. General Drawing

## 4. Files

|  |  |
| --- | --- |
| *fig. 2.1.1* |  |
| *fig. 2.1.2* |  |
| *fig. 2.1.3* |  |
| *fig. 2.2.1* |  |
| *fig. 2.2.2* |  |
| *fig. 2.2.3* |  |
| *fig. 2.3.1* |  |
| *fig. 2.3.2* |  |
| *fig. 2.4.1* |  |
| *fig. 2.4.2* |  |
| *fig. 2.4.3* |  |
| *fig. 2.4.4* |  |